

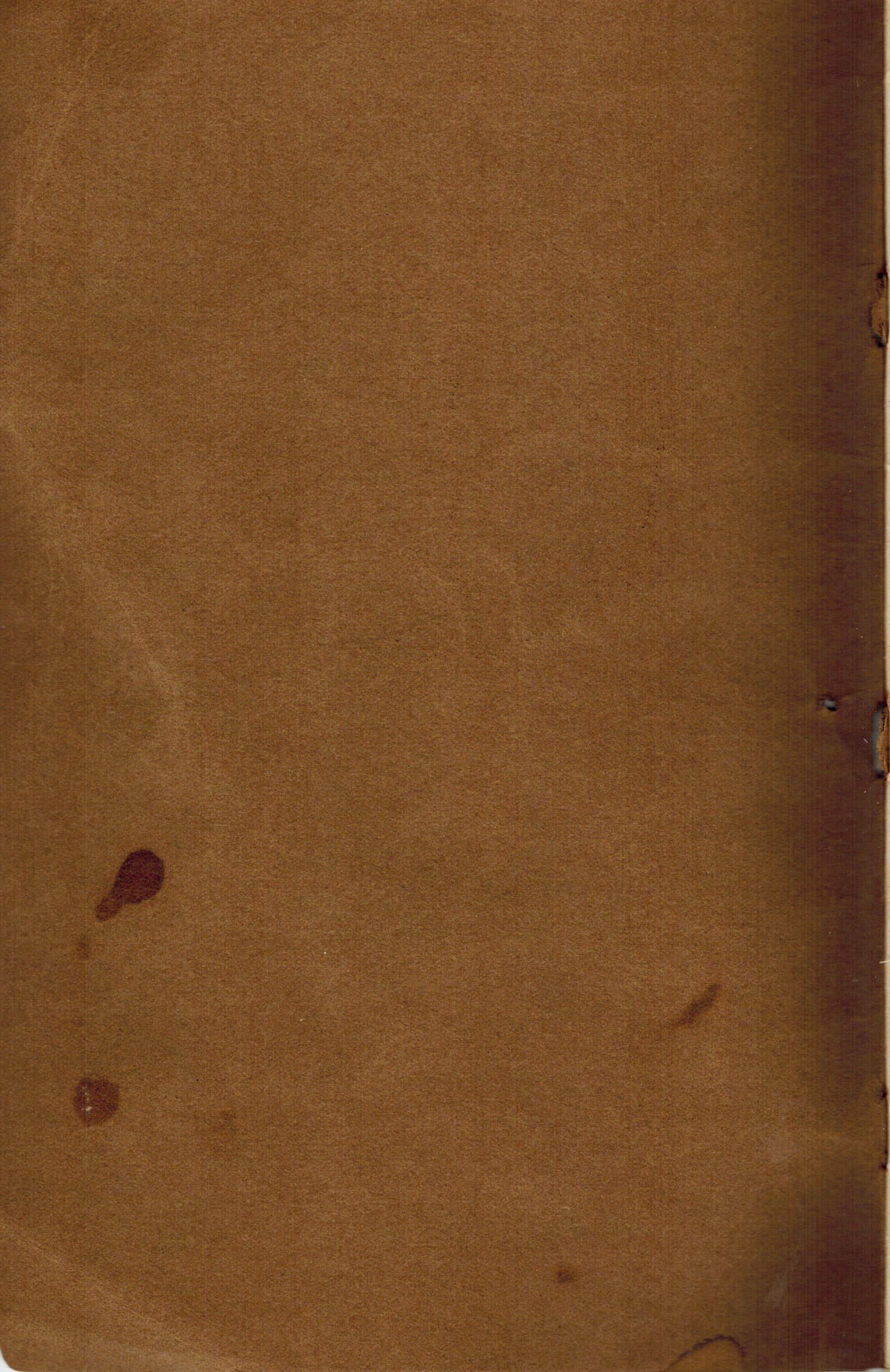


**Catalog  
No. 26**

**Mathias** **KLEIN** **& Sons**  
**Established 1857** **Chicago, U.S.A.**

**Makers of "KLEIN TOOLS"**









# Mathias Klein & Sons

*Manufacturers of*

TOOLS FOR ELECTRICIANS  
LINEMEN AND MECHANICS

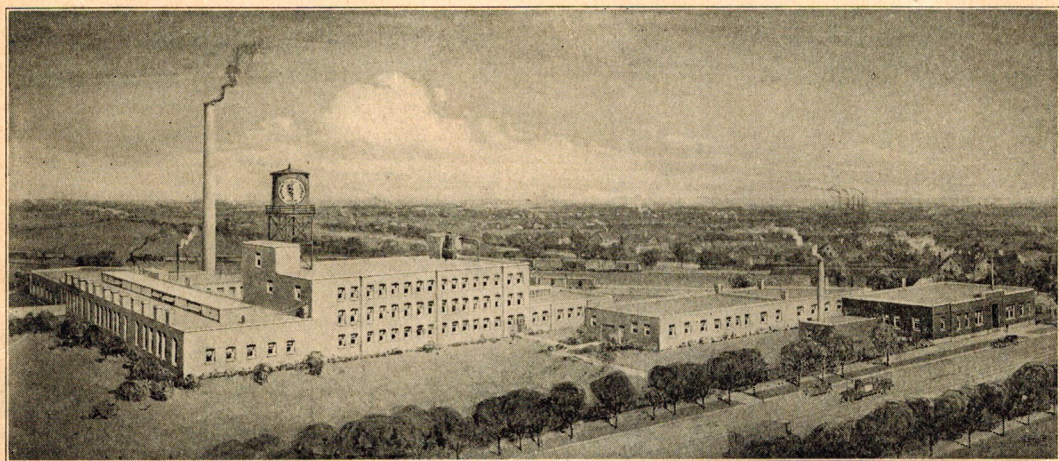
CATALOG

No. 26

*Issued July 1st, 1926*

GENERAL OFFICE AND FACTORY  
3200 BELMONT AVE.  
CHICAGO, ILLINOIS





## THE GROWTH AND DEVELOPMENT OF THE HOUSE OF KLEIN

From an humble blacksmith shop in 1857 to one of the largest and most modern tool making plants of its kind in the world, is the span in the career of the House of Klein.

This firm dates back to 1857, when Mr. Mathias Klein, its founder, opened a blacksmith shop within a stone's throw of the heart of Chicago's great loop district. This was at a period when line construction was in its infancy, and the highly efficient tools of today were undreamed of.

With the increasing demand for tools of this kind, Mr. Klein saw the possibilities and concentrated his efforts toward the production of tools for telephone and telegraph construction work as well as power and railway work.

As a result he became a pioneer in the development of tools for the linemen and electrical mechanic.

To avoid substitution of inferior imitations (of which there are many), we wish to caution purchasers that tools marked simply with the words "Klein Pattern," or with the word "Klein" alone, are not of our manufacture. Genuine Klein Tools are stamped either with the full firm name, "Mathias Klein & Sons," or with the name "M. Klein & Sons," or with this

TRADE



MARK

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"EVERY LINEMAN A KLEINMAN"





# IMPORTANT!

## Terms

To customers who have an account with us, our terms are 2% for cash 10 days or net 30 days from date of invoice.

Orders for small amounts, where no regular account has been established, must be accompanied by funds. If unaccompanied by funds, goods will be forwarded C. O. D.

## F. O. B. Factory

All prices are F. O. B. Factory; mail, express or freight transportation charges are payable by the purchaser. Prices are subject to change without notice.

## Remittances

All remittances payable in Chicago, New York or St. Louis exchange or by money order.

## Shipments in Transit

When goods are delivered to carrier and a receipt is given our responsibility ceases. The carrier is then responsible for the safe delivery.

## Export Orders

All details regarding goods for export should be taken up with our Export Dept. Address Harman-S. Salt, 114 Liberty Street, New York, N. Y.

## Export Shipments

Special packing and crating for export shipment will be charged for at actual cost.

## Replacing of Defective Goods

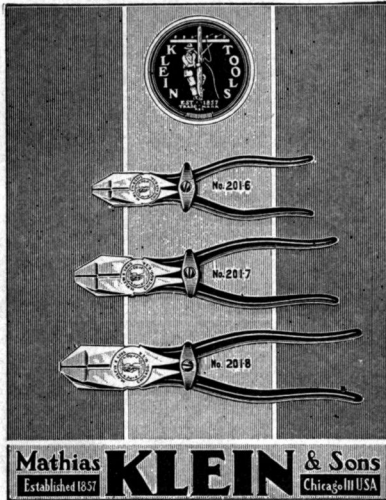
We use all possible care in the manufacture of our goods and will not send out anything that we know is defective. It sometimes happens that a defect cannot be detected and only shows up when a tool is put to use. In case of such a defect we wish to make it good, but we insist on the article being sent to us for examination. If we find the claim substantiated we will gladly make replacement, but we cannot be expected to replace tools broken by misuse or accident. In no case will replacement be made of tools showing evidence of grinding, filing or re-tempering.

Be sure to print in ink full name and address on all returned packages.





## FOUR ASSORTMENTS



### No. 1 ASSORTMENT

No. 1 "Best Seller" Assortment is made up of one-half dozen of Klein Sidecutting Pliers, in the popular six, seven and eight inch sizes. One each of the three sizes is mounted on the two-color display board, the remaining items being packed in individual cartons. Wall sign, bronzite counter sign and consumer tool booklets are furnished.

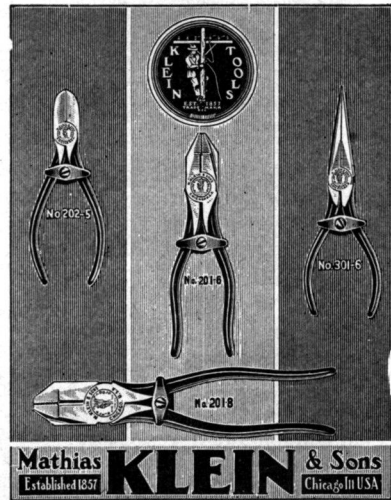
The Klein Pliers included in this order are as follows:

- \*2—201-6 Side Cutting Pliers
- \*2—201-7 Side Cutting Pliers
- \*2—201-8 Side Cutting Pliers

\*One each of these tools is mounted on the display board; all others in boxes.

### No. 1 DISPLAY

Consisting of Board only with pliers mounted as shown.



### No. 2 ASSORTMENT

No. 2 "Best Seller" Assortment is made up of eight of the most popular Klein Sidecutting, Oblique and Long Nose Pliers. The four pliers, as illustrated, are mounted on the two-color display board. The remaining items are packed in individual cartons. A heavily embossed wall sign, bronzite counter sign, and consumer tool booklets are furnished at no charge as sales helps.

The Klein Pliers included in this order are as follows:

- \*2 202-5 Oblique Cutting Pliers
- \*2—301-6 Long Nose Pliers
- \*2—201-6 Side Cutting Pliers
- \*2—201-8 Side Cutting Pliers

\*One each of these tools is mounted on the display board; all others in boxes.

### No. 2 DISPLAY

Consisting of Board only with pliers mounted as shown.

"EVERY LINEMAN A KLEINMAN"



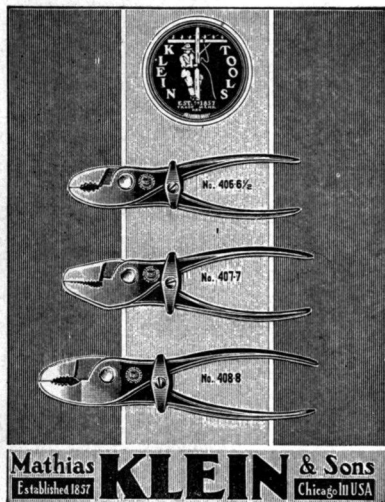


MATHIAS KLEIN & SONS

CHICAGO, ILL.



# OF KLEIN PLIERS



## No. 3 ASSORTMENT

No. 3 "Best Seller" Assortment consists of one dozen best selling Klein Slipjoint Pliers in three patterns. One of each of the pliers is mounted on the colored display board, the rest of the numbers being furnished in individual packages. A wall sign, heavily embossed in two colors, bronzite counter easel, and consumer tool booklets are furnished free.

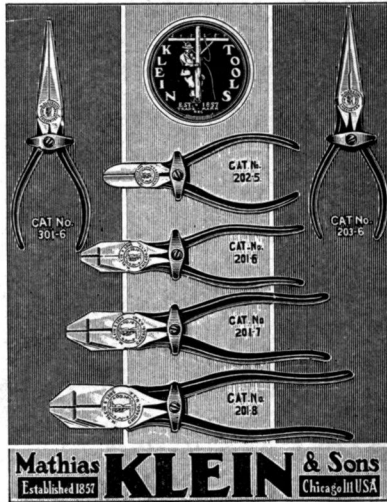
The Klein Pliers included in this order are as follows:

- \*6—406-6½ Slipjoint Pliers
- \*3—407-7 Slipjoint Pliers, "Utility"
- \*3—408-8 Slipjoint Pliers, Bent Nose.

\*One each of these tools is mounted on the display board; all others in boxes.

## No. 3 DISPLAY

Consisting of Board only with pliers mounted as shown.



## No. 4 ASSORTMENT

No. 4 "Best Seller" Assortment is made up of 1½ dozen of the most popular Klein Side Cutting, Oblique and Long Nose Pliers. Six pliers are mounted on the colored display as illustrated, the remainder of the order coming packed in attractive individual cartons. No charge is made for the display board, or for the wall sign, the bronzite countersign, and the consumer booklets furnished as sales helps.

The Klein Pliers included in this order are as follows:

- \*3—203-6 Long Nose Side Cutting Pliers
- \*3—301-6 Long Nose Pliers
- \*3—202-5 Oblique Cutting Pliers
- \*3—201-6 Side Cutting Pliers
- \*3—201-7 Side Cutting Pliers
- \*3—201-8 Side Cutting Pliers

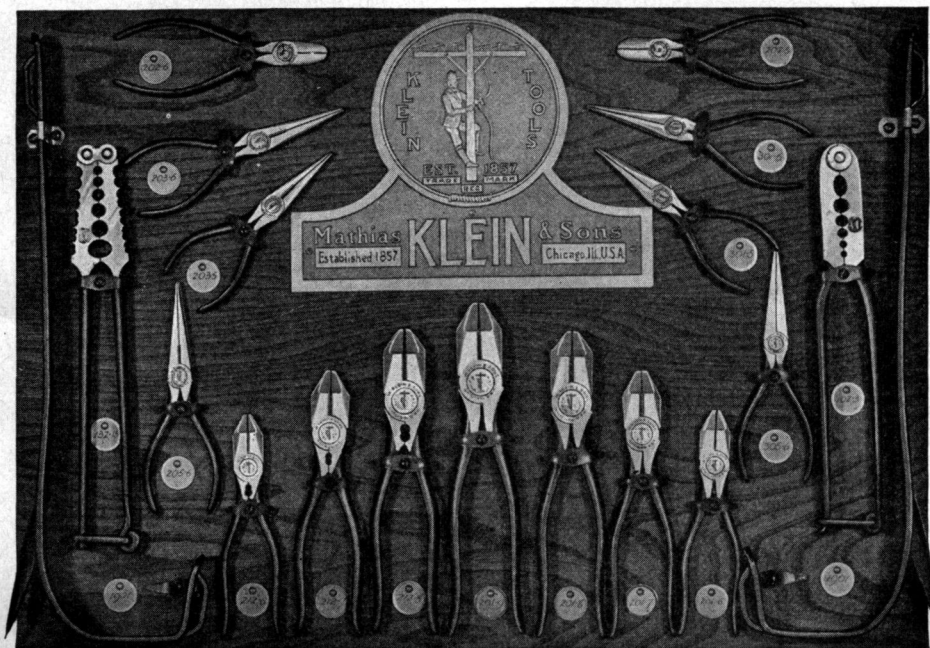
\*One each of these tools is mounted on the display board; all others in boxes.

## No. 4 DISPLAY

Consisting of Board only with pliers mounted as shown.

"EVERY LINEMAN A KLEINMAN"





## No. "76" Klein Display

No. "76" Klein Display includes the following tools, mounted on Board, as described.

- 1-202-5 Plier
- 1-202-6 Plier
- 1-301-5 Plier
- 1-301-6 Plier
- 1-203-5 Plier
- 1-203-6 Plier
- 1-305-6 Plier
- 1-206-6 Plier
- 1-201-6 Plier
- 1-201-7 Plier
- 1-201-8 Plier
- 1-201-9 Plier
- 1-212-6 Plier
- 1-212-7 Plier
- 1-212-8 Plier
- 1-102-3 Splicing Clamp
- 1-132-15 Splicing Clamp
- 1 pair 1901 Climbers

No. "76" Klein Display is a solid oak panel, beautifully finished in mission green. It is mounted with a carefully selected assortment of the most popular Klein pliers, splicing clamps, and climbing irons—and a two-color bronzite trade-mark.

No. "76" meets the requirements of Klein distributors who cater to the electrician and lineman, for a display that would attractively show the patterns of Klein Tools that are in constant demand.

Equipped to be used as either a counter easel, or to be hung on the wall, it makes an excellent window or counter display.

**"EVERY LINEMAN A KLEINMAN"**





MATHIAS KLEIN & SONS

CHICAGO, ILL.



Any distributor may obtain these signs free upon request. They are furnished with assortments shown on pages 4 and 5



FREE UPON REQUEST.

An unusually attractive counter easel sign heavily embossed in two tones of bronze is shown to the left. This sign displayed on your counter will result in many sales. It features a trade mark that has been familiar to linemen and electricians for over half a century.



FREE UPON REQUEST.

To the left is shown an attractive enamel steel angle sign for outside display. It is lettered on both sides and helps pull in the established trade on Klein goods. The wise buyer of tools looks for this sign. Made 9"x22" and shipped upon request to distributors of Klein goods.



FREE UPON REQUEST.

To the left is shown a heavily embossed cardboard sign in two colors for use as inside display on counter or as a wall hanger. This display is 10 $\frac{3}{4}$ " x 14 $\frac{3}{4}$ ".

"EVERY LINEMAN A KLEINMAN"





MATHIAS KLEIN & SONS

CHICAGO, ILL.



Long before the oldest lineman can remember Klein Pliers were the quality standard! And today there is just the same fine quality, rigid manufacturing standards, and absolute guarantee against all defects of manufacture that made them the standard—half a century ago.

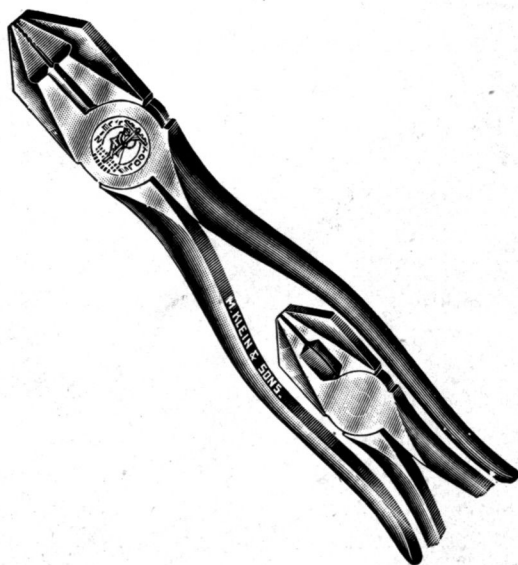
**"EVERY LINEMAN A KLEINMAN"**





## KLEIN'S SIDE CUTTING PLIER

For use on bare and insulated wire. For linemen, electricians and mechanics. Adaptable for all uses where a high quality plier of this type is required.



Polished Heads and Handles Temper Blue.

CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
201-5	5-inch .....	3 lbs.
201-6	6-inch .....	5 lbs.
201-7	7-inch .....	7½ lbs.
201-8	8-inch .....	12 lbs.
201-9	9-inch .....	12½ lbs.

Genuine Klein Linemen's Side Cutting Plier is one of the most popular pliers in use today. Its handles are shaped to the curvature of the hand, a much desired feature. Powerful leverage and keen reinforced cutting knives make this plier adaptable for heavy cutting in telephone work.

Full clearance back of the knife permits use on insulated wire.

Standard Package 6 in a box.

"EVERY LINEMAN A KLEINMAN"

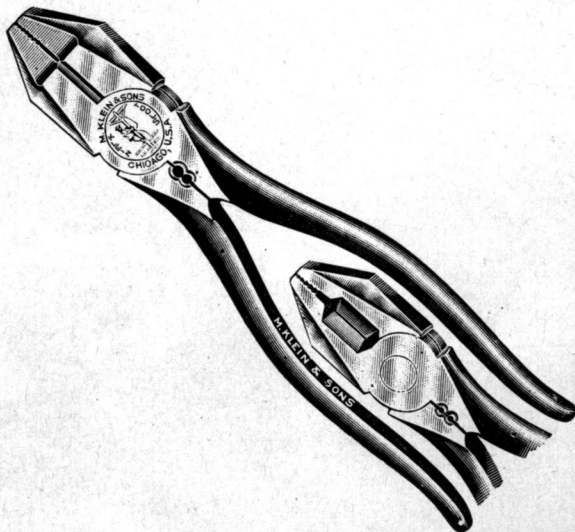




## KLEIN'S SIDE CUTTING PLIER

### With Sleeve-Joint Twister

For use on bare and insulated wire. For linemen and electricians.  
Specially designed for telegraph and telephone work.



Polished Heads and Handles Temper Blued.

This plier is the same as No. 201 series (shown on previous page),  
but with opening provided for twisting double sleeve joints.

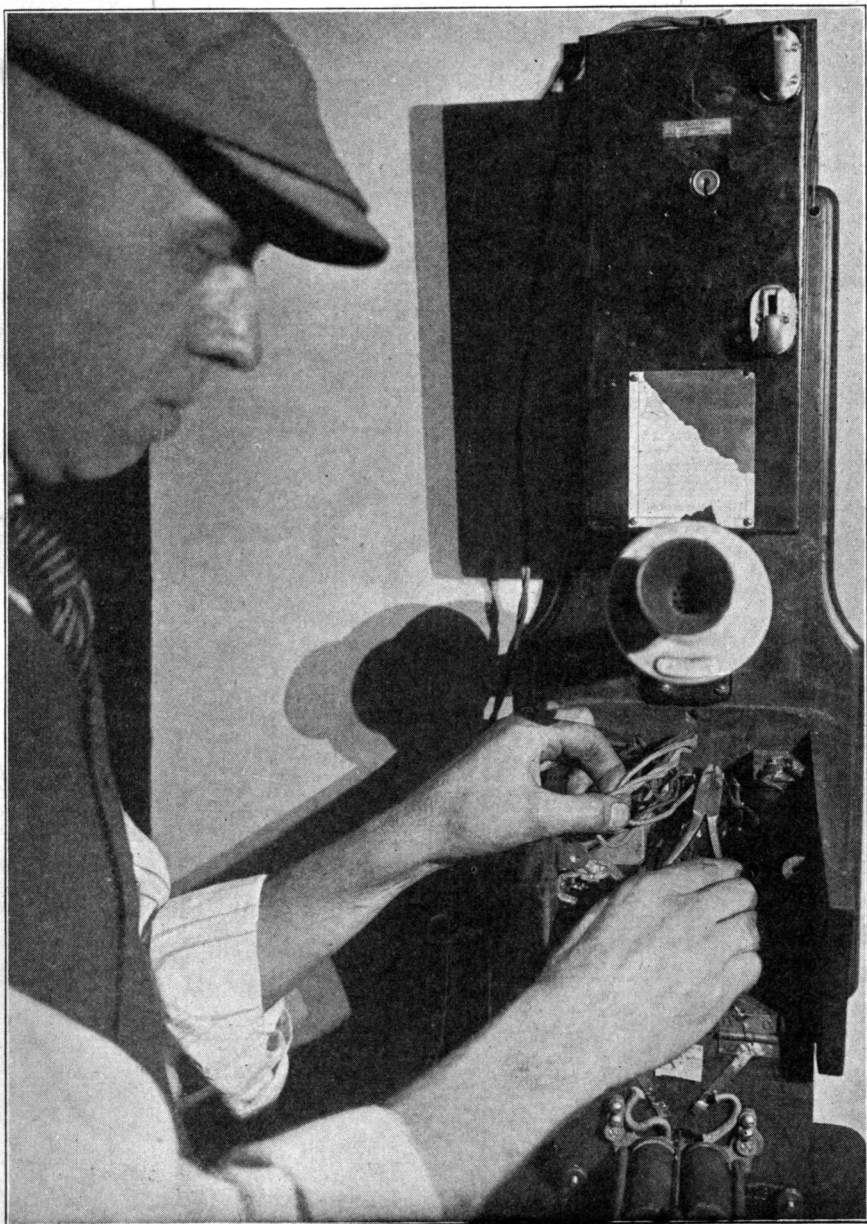
CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
212-6	6-inch	5 lbs.
212-7	7-inch	7½ lbs.
212-8	8-inch	12 lbs.

Sleeve Twister in the 6-inch is for No. 17 sleeves, B. & S. .045  
Sleeve Twister in the 7-inch is for No. 17 sleeves, B. & S. .045  
Sleeve twister in the 8-inch is for No. 10 sleeves, B. & S. .104

Standard Package 6 in a box.

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"EVERY LINEMAN A KLEINMAN"



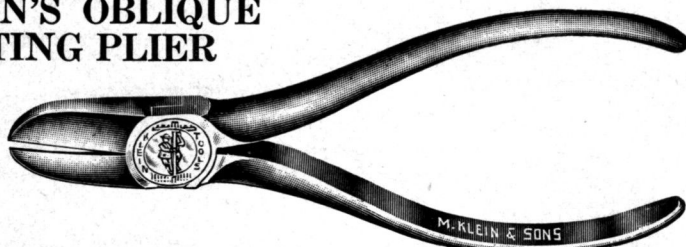
No matter what the job, there is a Klein Plier made for the purpose. They have been standard equipment for many years in the tool kits of linemen, electricians and mechanics.

**"EVERY LINEMAN A KLEINMAN"**





## KLEIN'S OBLIQUE CUTTING PLIER



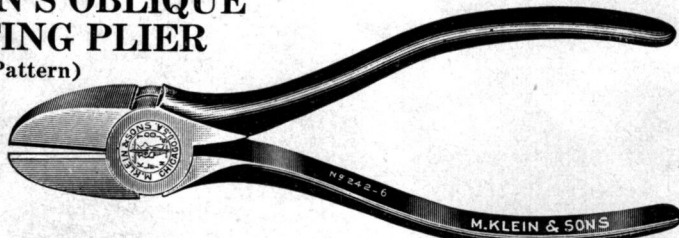
Electricians, telephone men and switchboard builders will find this particular oblique cutting plier one of the most useful tools in their kits. Cuts close, the narrow head permitting its use in confined places. The knives are perfectly fitted, so that they meet accurately at all points. This plier is of the lap joint type, and this superior feature of our make is an advance over the old box joint method.

CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
202-5	5-inch	4 lbs.
202-6	6-inch	4 1/4 lbs.

NOTE—This plier can be furnished with single or double wire stripper holes on special order.

## KLEIN'S OBLIQUE CUTTING PLIER

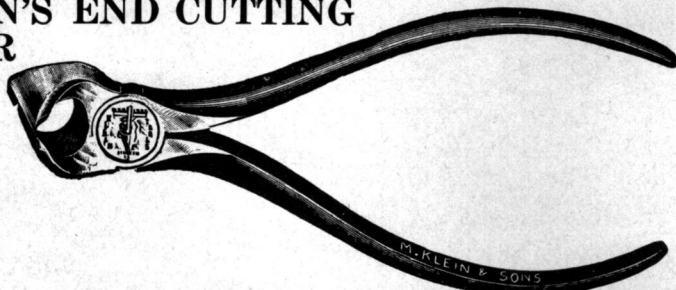
(Heavy Pattern)



This plier is similar in construction to the No. 202 that has been a favorite with mechanics for many years. It is, however, made heavier to meet the requirements of those desiring a stronger plier for general work. It will be found particularly useful where it is not necessary to reach into closely confined spaces.

242-6	6-inch	4 3/4 lbs.
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## KLEIN'S END CUTTING PLIER



A generally useful end-cutting plier for electrical mechanics. Has stout jaws and broad cutting knives. There is ample room in the throat of pliers when needed, which also adapts this tool to such work as cutting off shoe buttons, etc.

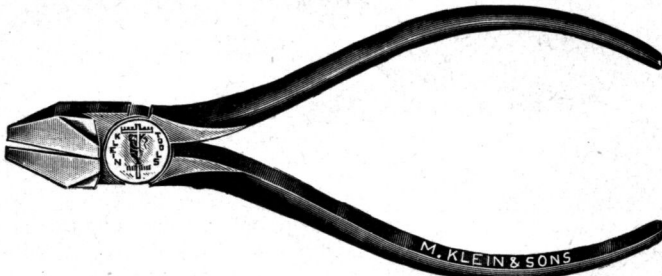
232-5 1/2	5 1/2-inch	4 lbs.
232-7	7-inch	7 lbs.

All Pliers, Polished Heads and Handles Temper Blued.  
Standard Package 6 in a box.

"EVERY LINEMAN A KLEINMAN"



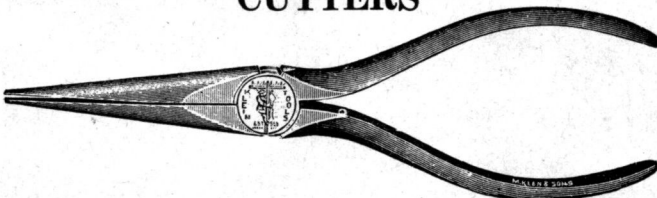
## KLEIN'S DIAGONAL PLIER



This plier has perhaps as many uses as the oblique pattern. It has long cutting knives well matched, so as to permit close and clean cutting. The head is narrow to penetrate confined places and work between binding posts, etc. The knives are correctly constructed to cut clean and to give lasting service.

CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
235-6	6-inch	4½ lbs.

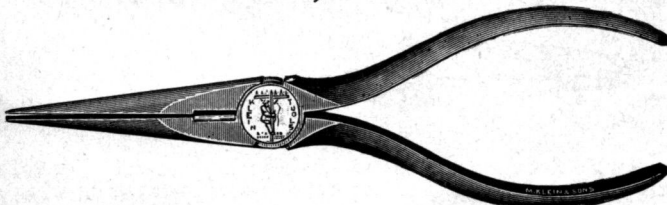
## KLEIN'S LONG NOSE PLIER, WITHOUT CUTTERS



This style of plier has been perfected to meet a long-felt want of the electrician and general mechanic. Special features are its adaptability to stripping the ends of insulated wire and the extra long reach of the jaws which permits getting into difficult places. For switchboard, telegraph and telephone work, armature winding, etc. This tool is especially hardened and tempered to insure positive grip at point of nose when pressure is applied.

301-5	5-inch	2¾ lbs.
301-6	6-inch	3 lbs.

## KLEIN'S LONG NOSE, SIDE CUTTING PLIER



Has the same features as our No. 301 series shown above, with the addition of the cutting knives. The knives are carefully fitted and the body of the plier is hardened and tempered, assuring true cutting.

203-5	5-inch	2¾ lbs.
203-6	6-inch	3 lbs.

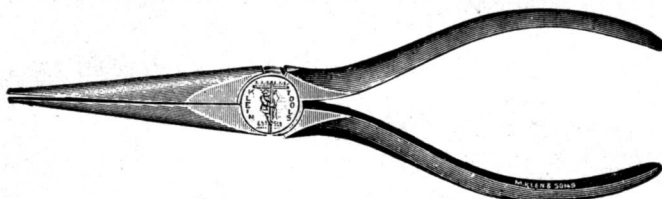
All Pliers, Polished Heads and Handles Temper Blued.  
Standard Package 6 in a box.

"EVERY LINEMAN A KLEINMAN"





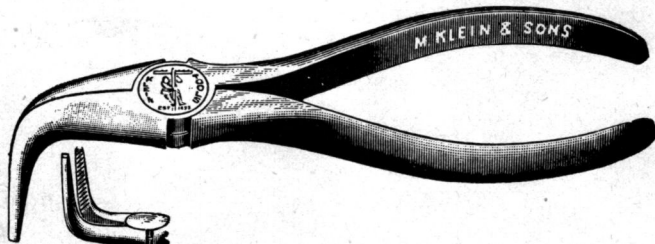
## KLEIN'S LONG NEEDLE NOSE PLIER



This tool has all the features of No. 301 series, with the exception that the points of the nose are more of the needle point pattern, which some mechanics prefer. The thin points make these pliers more useful for the general class of work done in Central Offices.

CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
303-6	6-inch .....	3 lbs.

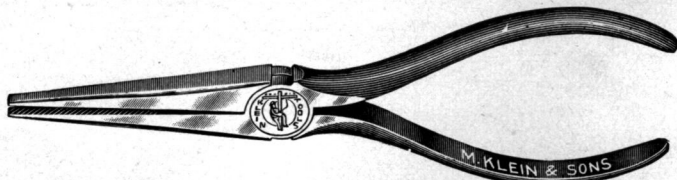
## KLEIN'S LONG CURVED NOSE PLIER



A handy plier for working around switchboards, terminals and telephones, due to the nose being curved. The angle is arranged to give full clearance and prevent skinning of knuckles. Users will find this tool adaptable to a great variety of uses. The jaws will not lose their shape or set due to pressure applied, owing to the quality of steel used, its hardening and tempering.

302-6	6-inch .....	2 3/4 lbs.
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## KLEIN'S LONG FLAT NOSE PLIER



Extra long wide flat nose makes this an especially useful plier. This plier is especially hardened and tempered, so that the jaw will not spring when pressure is applied. This tool is adaptable to switchboard work, telephone and telegraph work, armature winding, etc. A very handy tool for spring adjusting. This plier can be supplied with inside of jaws left smooth if desired.

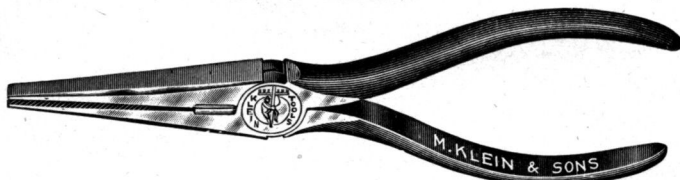
305-6	6-inch .....	3 1/2 lbs.
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All Pliers, Polished Heads and Handles Temper Blued.  
Standard Package 6 in a box.

"EVERY LINEMAN A KLEINMAN"



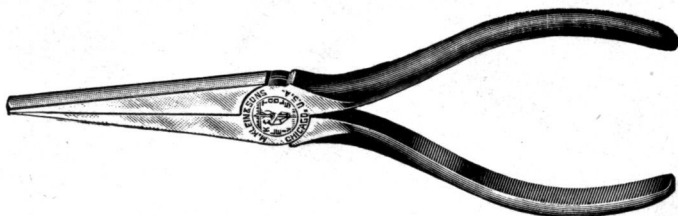
## KLEIN'S LONG FLAT NOSE, SIDE CUTTING PLIER



This plier is similar in its usefulness to our No. 305 series shown above with the added advantage of cutting knives.

CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
206-6	6-inch .....	3½ lbs.

## KLEIN'S LONG DUCK BILL PLIER



This plier is fitted with duck bill jaws wider and heavier than those of the ordinary flat nose plier. This affords a tool with a firmer gripping surface. Also in general use as a weaver's plier.

304-6	6-inch .....	3¼ lbs.
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## KLEIN'S LONG DUCK BILL, SIDE CUTTING PLIER



This type is the same as our No. 304 duck bill shown on previous page, with the addition of cutting knives. As on all Klein Pliers, the cutters are carefully fitted so as to cut easily and true.

205-6	6-inch .....	3 lbs.
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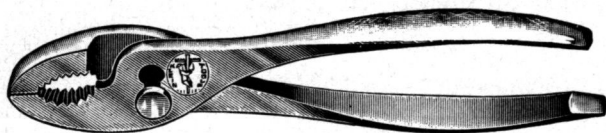
All Pliers, Polished Heads and Handles Temper Blued.  
Standard Package 6 in a box.

“EVERY LINEMAN A KLEINMAN”





## KLEIN'S SLIP JOINT PLIER



Made of tempered tool steel (like all Klein Pliers) this tool will give service that cannot be expected from the ordinary plier of similar pattern. Has a wire cutter and a screwdriver handle.

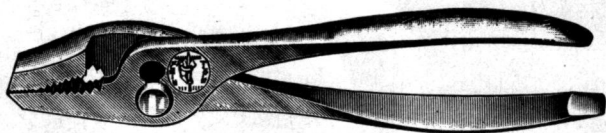
CATALOG  
NUMBER SIZE

406-6½ 6½-inch .....

WEIGHT  
PER DOZEN

7 lbs.

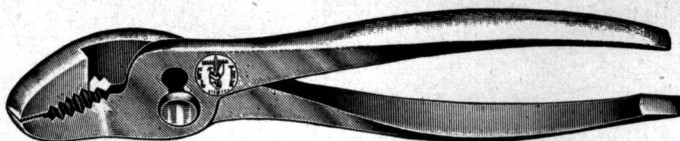
## KLEIN'S "UTILITY" SLIP JOINT PLIER



The special features of this plier, which is of the heavy duty type, are adaptability as a pipe wrench and wire cutter. Has sure grip jaws which readily accommodate objects of irregular shape. It is also made of tempered tool steel like the item above.

407-7 7-inch ..... 7½ lbs.

## KLEIN'S BENT NOSE SLIP JOINT PLIER



A plier of the bent nose type. Specially designed for use in difficult places. An excellent general purpose tool that should be included in every mechanic's kit. Made of tempered tool steel and can be relied on for maximum service.

408-8 8-inch ..... 8 lbs.

All Pliers, Polished Heads and Handles Temper Blued.

Standard Package 6 in a box.

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"EVERY LINEMAN A KLEINMAN"



MATHIAS KLEIN & SONS

CHICAGO, ILL.



**Klein Splicing Clamps were the first splicing clamps ever manufactured. They still are first. Ask any lineman!**

**"EVERY LINEMAN A KLEINMAN"**





## SPLICING CLAMPS

**O**F all the tools in use, the lineman's splicing clamp is one of the most abused, for in the absence of something more appropriate, the splicing clamp often serves as hammer, wrench or crow bar and then again it must be of service in making dependable electrical and mechanical joints. It is obvious that not "any old thing" is profitable. We will not speak of the abuse-resisting qualities which are only incidental after all, but the tool must be properly proportioned, the jaws must be properly tempered and hardened so as to resist wear, the handles must be resistant to bending strain and retain their normal set, and the dies for holding the wires must fit. To all this especial attention is given in Klein Splicing Clamps.

Following our policy of elimination of unnecessary patterns the entire range of sleeve and wire sizes practical for this type of tool are included in the six Klein Splicing Clamps listed on the following pages, which comprise all the combinations suitable for the work for which they are intended.

### There Is a Difference Between Iron Wire Gauge and Copper Wire Gauge, as Follows:

With reference to size of wire given, for which our splicing tools are adapted please bear in mind that there is a difference in gauge between iron wire and copper wire. Iron wire is marketed under Birmingham wire gauge while copper wire calls for Brown & Sharp gauge.

Standard stock splicing clamps for twisting sleeve joints are fitted for "American Sleeves," B. & S. gauge, except where otherwise noted, but will also fit iron sleeves approximately two gauge numbers higher.

COMPARATIVE TABLE FOR STANDARD SLEEVES

B. & S. Copper	N. B. & S. Copper	B. W. G. Copper	B. W. G. Iron
No. Diam.	No. Diam.	No. Diam.	No. Diam.
8 .128	10 .128	8 .165	....
10 .102	12 .104	10 .134	10 .134
12 .081	14 .080	....	12 .109
14 .064	....	....	14 .083
17 .045	17 .045	....	....
18 .040	....	....	....
19 .036	....	....	....

"EVERY LINEMAN A KLEINMAN"



MATHIAS KLEIN & SONS

CHICAGO, ILL.



## Illustration Showing Klein's Combination Wire and Sleeve Clamp

Joints work  
freely, yet are  
rigidly mounted  
to preserve  
alignment.

Fits perfectly  
without mar-  
ring wire or  
sleeve.

Properly  
spaced to  
avoid crushing  
of fingers.

Handles have  
spring temper.  
Will not bend  
out of shape.

Klein splicing clamps have been designed to meet the requirements of general telephone, telegraph, railway and electric light work. They splice bare copper and iron wires, and can be used for twisting double tube sleeve joints by simply reversing the handles of the clamp. Forged from a select grade of tool steel, properly hardened and tempered. The handles will not buckle when closed.

"EVERY LINEMAN A KLEINMAN"





MATHIAS KLEIN & SONS

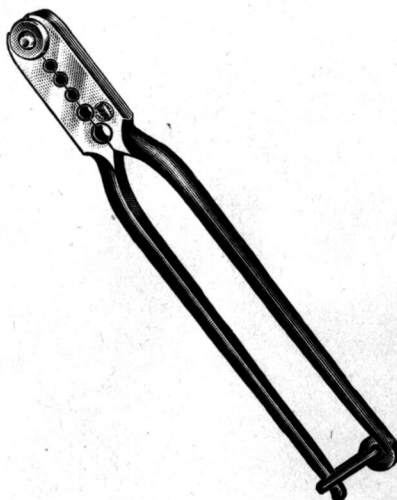
CHICAGO, ILL.



## KLEIN'S SPLICING CLAMPS

This clamp is arranged with five round holes for bare wire.

**Hammer Forged from High Grade Crucible Tool Steel. Spring Tempered. Polished Heads and Black Handles.**



CATALOG  
NUMBER SIZE

WEIGHT  
PER DOZEN

102-1 8-inch ..... 6 lbs.

Copper wire Nos. 8, 10, 12, 14, 16, B. & S.

Iron wire Nos. 10, 12, 14, 16, 18, B. W. G.

A handy pocket size, adapted specially for telephone troublemen.

Standard Package 6 in a box.

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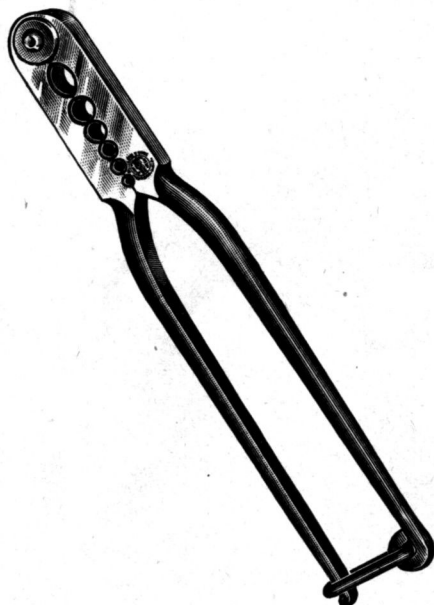
"EVERY LINEMAN A KLEINMAN"



## KLEIN'S SPLICING CLAMPS

For bare wire, arranged with five round holes and one oval hole.

Hammer Forged from High Grade Crucible Tool Steel. Spring Tempered. Polished Heads and Black Handles.



CATALOG  
NUMBER SIZE

WEIGHT  
PER DOZEN

102-3    10 $\frac{3}{4}$ -inch ..... 15 lbs.

Supersedes former Nos. 102-2 and 102-5.

Copper wire Nos. 2, 4, 6, 8, 10, 12, B. & S.

Iron wire Nos. 4, 6, 8, 10, 12, 14, B. W. G.

Used in telephone, telegraph and power line work, covering a wide range of wires. Large hole can also be used in serving guy wire or messenger strand, and is sometimes used for No. 4 copper sleeves. The dies in the above clamp fit the wires snugly to insure perfect mechanical and electrical joints.

Standard Package 6 in a box.





## KLEIN'S SPLICING CLAMPS

For twisting double tube sleeves.

Hammer Forged from High Grade Crucible Tool Steel. Spring Tempered. Polished Heads and Black Handles.



CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
105-15	8-inch .....	5 lbs.

Copper sleeves Nos. 8, 10, 12, 14, 17, B. & S.

Iron sleeves Nos. 10, 12, 14, 16, 19, B. W. G.

This is a convenient pocket size splicing clamp. The chambers are arranged to fit the sleeves snugly so that sleeves are not injured in twisting and insure perfect mechanical and electrical joints.

Standard Package 6 in a box.

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'EVERY LINEMAN A KLEINMAN'



MATHIAS KLEIN & SONS

CHICAGO, ILL.



## KLEIN'S SPLICING CLAMPS

This clamp has five sets of chambers for twisting sleeves.

Hammer Forged from High Grade Crucible Tool Steel. Spring Tempered. Polished Heads and Black Handles.



CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
105-17	10 $\frac{3}{4}$ -inch .....	15 lbs.

Supersedes former Nos. 105-6, 105-7 and 105-12.

Copper sleeves Nos. 6, 8, 10, 12, 14, 17, B. & S.

Iron sleeves Nos. 8, 10, 12, 14, 16, 19, B. W. G.

The above clamp is intended for telephone, telegraph and power line work. The chambers are arranged to fit the sleeves snugly so that sleeves are not injured in twisting and insure perfect mechanical and electrical joints.

Standard Package 6 in a box.

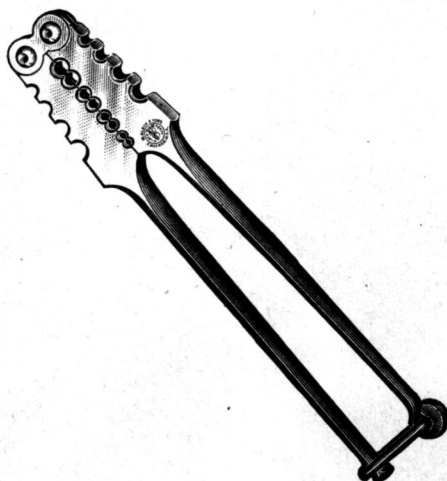
"EVERY LINEMAN A KLEINMAN"





## KLEIN'S COMBINATION WIRE AND SLEEVE CLAMPS

**Hammer Forged from High Grade Crucible Tool Steel. Spring Tempered. Polished Heads and Black Handles.**



CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
132-12	9-inch .....	10 lbs.

Supersedes former No. 132-2.

The above clamp has four round holes for twisting bare wire.

Copper wire Nos. 6, 8, 10, 12, B. & S.

Iron wire Nos. 8, 10, 12, 14, B. W. G.

The reverse side has four double chambers for twisting sleeves.

Copper sleeves Nos. 8, 10, 12, 14, 17, B. & S.

Iron sleeves Nos. 10, 12, 14, 16, 19, B. W. G.

Standard telephone splicing clamp for general line and trouble work.

Standard Package 6 in a box.

---

**"EVERY LINEMAN A KLEINMAN"**



## KLEIN'S COMBINATION WIRE AND SLEEVE CLAMPS

**Hammer Forged from High Grade Crucible Tool Steel. Spring Tempered. Polished Heads and Black Handles.**



CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
132-15	11¼-inch .....	15½ lbs.
Supersedes former Nos. 132-3, 132-4, 132-5, 132-9, 132-11, 132-13 and 132-14.		

The above clamp has five round holes for twisting bare wire. One oval hole for guy strand, .437 x .624.

Copper wire Nos. 4, 6, 8, 10, 12, B. & S.  
Iron wire Nos. 6, 8, 10, 12, 14, B. W. G.

The reverse side has five double chambers for twisting sleeves.

Copper sleeves Nos. 6, 8, 10, 12, 14, 17, B. & S.  
Iron sleeves Nos. 8, 10, 12, 14, 16, 19, B. W. G.  
Oval Hole .437 x .624.

This clamp covers complete range of wires as usually handled by telephone, telegraph and power linemen. Practically a universal tool.

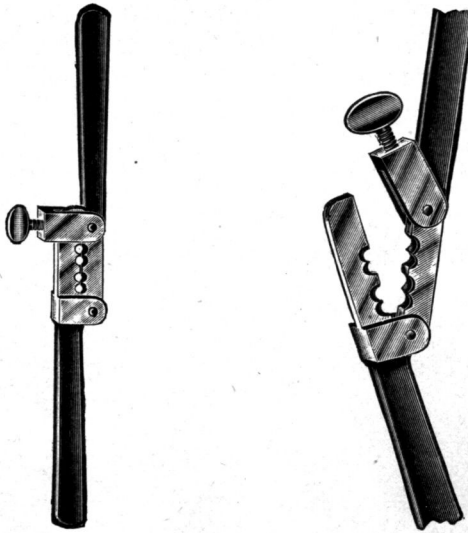
Standard Package 6 in a box.

**"EVERY LINEMAN A KLEINMAN"**





## KLEIN'S "DI-STOCK" SLEEVE TWISTER



CATALOG  
NUMBER

107-2 (for sleeves)

WEIGHT  
EACH

4 lbs.

Has ample leverage for use on heavy wires beyond the capacity of standard splicing clamps or connectors. (Can be made for twisting bare wire if desired.)

Illustration at left shows "Di-Stock" fitted for making double tube joints. At right is tool ready for the insertion of sleeves for joining.

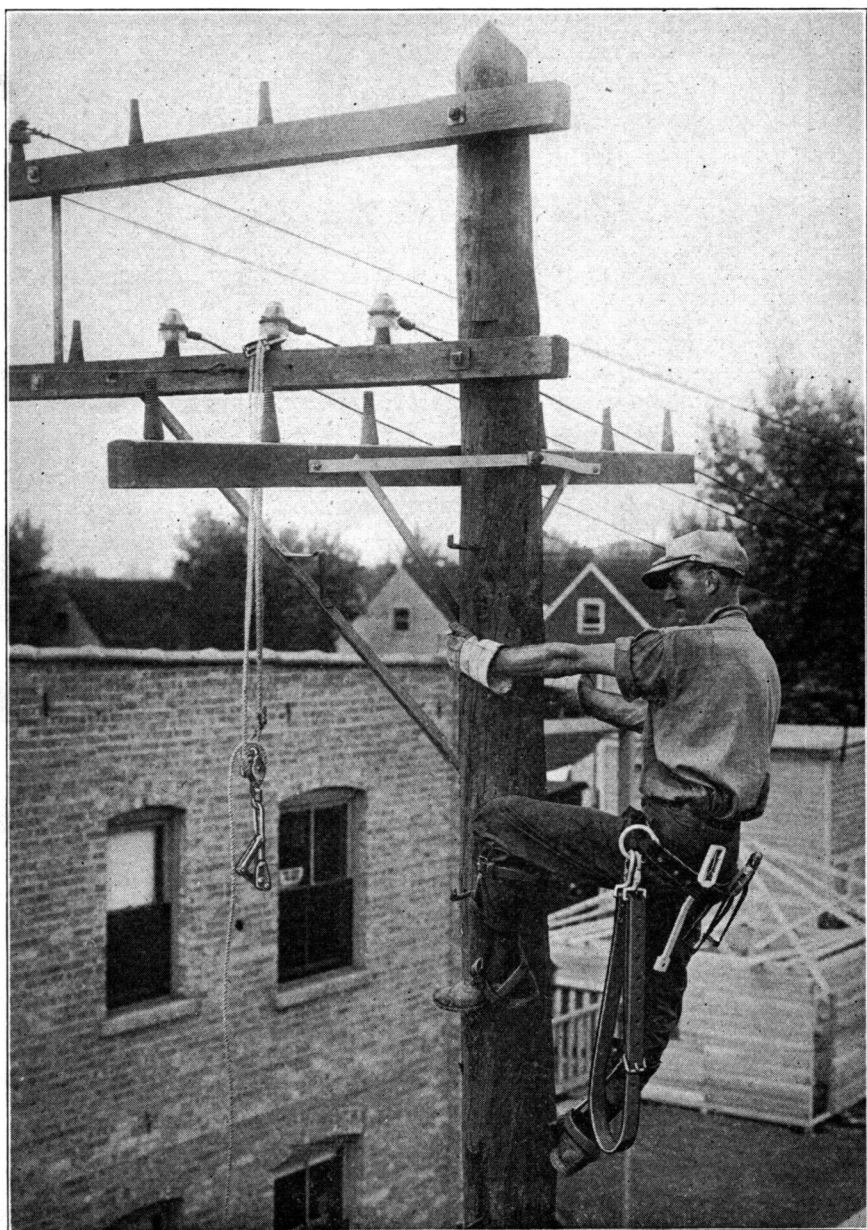
Forged from high grade crucible steel. Has swing latch provided with thumb nut to fit over reverse jaw to hold both jaws securely in place.

Prices on any desired combination of sleeve openings on application. We carry stock of these tools in blank and cut the openings as required. To avoid possibility of error, samples of the sleeves (or wire) for which tools are desired **must** accompany order.



MATHIAS KLEIN & SONS

CHICAGO, ILL.



Carefully forged from spring steel, hand tempered and finished. Klein Climbers are the linemen's general favorite. The shape of the leg iron, the set of the gaff, makes for safety, ease and comfort. Every climber individually tested before shipment.

**"EVERY LINEMAN A KLEINMAN"**



## KLEIN'S LINEMEN'S POLE CLIMBERS

(Also Called "Spurs" or "Hooks")

---

### SAFETY AND COMFORT

Safety is the first and vital point in considering Linemen's Pole Climbers.

The lineman going up a pole depends entirely on his spurs; he must continue to depend on them while working, often with both hands in use, and he must depend on those same spurs to bring him safely to the ground again.

To assure the utmost dependability Klein Climbers are forged from special steels and are individually tempered under expert supervision. The shanks and gaffs are individually tested to insure perfect riveting and temper.

The leg iron or shank is made of spring steel, the gaff or spur is forged from tool steel.

The shape of Klein Climbers has been carefully considered. It is the result of many years' experience and much practical suggestion from linemen. Bad fitting climbers cause as much discomfort as ill fitting shoes. Klein Climbers have flexible shanks and yield readily to the pressure of the leg, they do not chafe. The gaff or spur is correct in shape, set of angle and temper. It is hand riveted to the leg iron in a secure manner.

Linemen in general recognize Klein Climbers as the standard and will accept no substitute.

Worn gaffs can be replaced by sending the climbers to us. We require this to assure dependable workmanship and temper.

It is not good safety practice to continue using climbers after the gaffs are worn to less than  $1\frac{1}{4}$  inches long (measured on the under-side).

---

### CAUTION:

When gaffs need resharpening always use a file. Never grind on a wheel, as this is likely to set up heat, which ruins the temper of the gaff and may make the climber dangerous to use.

We cannot consider any claim for replacement of climbers on which the gaffs show evidence of grinding.





## KLEIN'S EASTERN CLIMBERS



NOTE—In ordering climbers always mention the length of shank wanted. Measure from instep to the extreme end.

**CATALOG  
NUMBER****WEIGHT  
PER PAIR**

1901 Punched Strap Loops, standard pattern.....	3½ lbs.
1900 Riveted Strap Loops .....	3½ lbs.

Stock sizes 15, 15½, 16, 16½, 17, 17½ and 18 inches, measured from the instep to the end of shank. Other sizes to order. (Every climber individually tested.)

## KLEIN'S TREE CLIMBERS

**CATALOG  
NUMBER****WEIGHT  
PER PAIR**

1907 Punched Strap Loops .....	3¾ lbs.
--------------------------------	---------

Made to order only. These climbers are similar to the No. 1901 but are furnished with extra long gaffs necessary to penetrate bark in tree climbing. The gaffs (or spurs) are 5½ inches long, measured on the outside, and 3 inches long, measured on the underside. They are set high in the leg iron so that the points clear the ground when walking. These are the standard tree climbers used by Forest Rangers, Top Loggers, Fire Wardens and Surveyors.



## KLEIN'S LEATHER GOODS

### **"Drop Forged" Hardware**

---

The name "Mathias Klein & Sons" or the Klein Trade Mark on leather goods for linemen and electricians assures the same quality and trustworthiness as it does in connection with tools.

The very life of a lineman depends upon the reliability of the belt and strap he is equipped with. One accident on account of a faulty belt or strap may have the most serious consequences. First cost is incidental—quality **MUST** be the best.

Klein's leather is first quality "slow process" vegetable tanned harness leather selected for its strength and durability.

Genuine "Klein" Leather Goods are produced by workmen skilled in their trade, insuring first class workmanship.

All genuine "Klein" "D" Rings, Snaps and Buckles are "drop forged" from bar steel and tested to 1500 lbs. to guard against all possible defects. All sewing is done with hot waxed linen thread, lock stitched. Riveting with solid copper rivets reinforces and strengthens the several parts.

Genuine Klein Belts, Safety Straps, Climber Straps, Tool Bags, etc., are made up to a standard of quality and not down to a price.

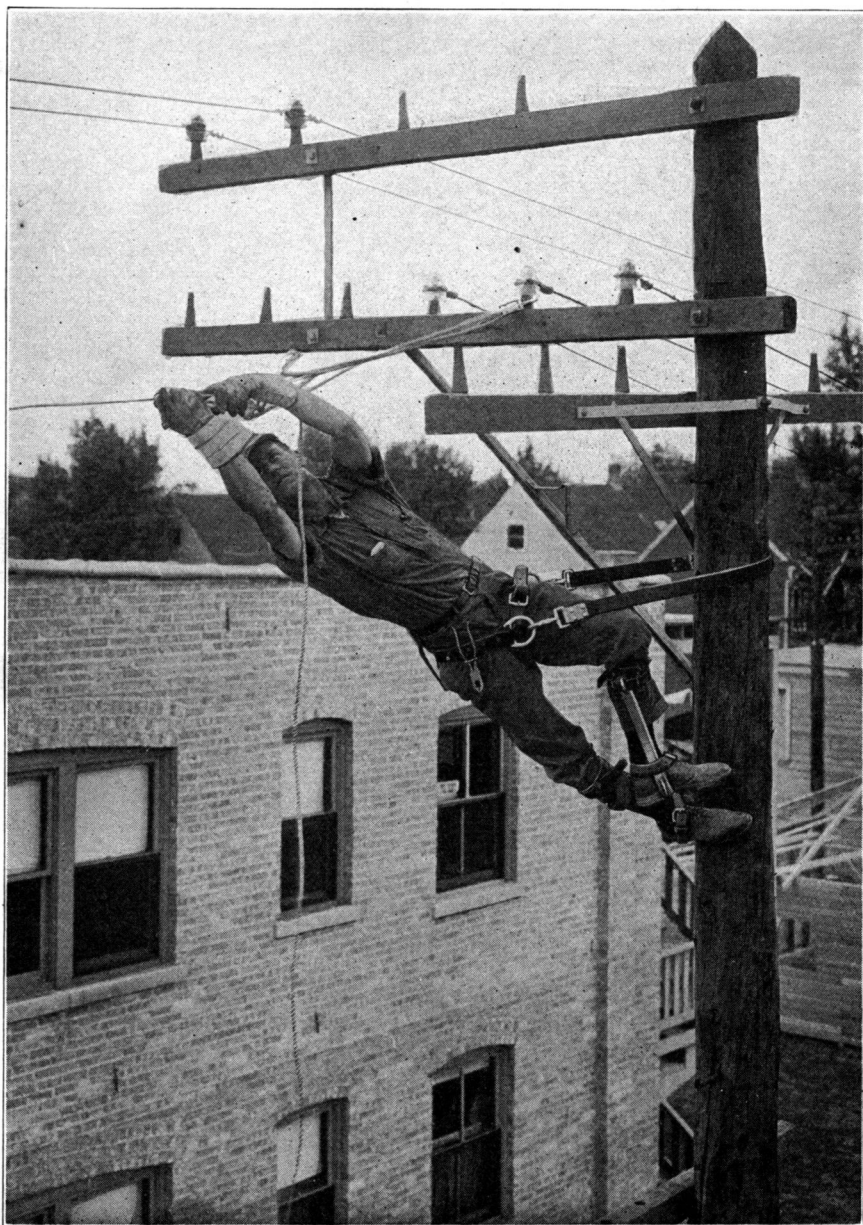
To detect substitutions note that genuine Mathias Klein & Sons Leather Goods are stamped with their trade mark and the catalog number on each article. Look for this when buying. For your own protection insist on "Genuine Klein Leather Goods," and specify by their catalog numbers.

"Klein" Belts and Straps are standard with and exclusively specified by many of the largest utility corporations, railroads, fire departments, etc. in the country.



MATHIAS KLEIN & SONS

CHICAGO, ILL.



He's safe—absolutely safe! The Klein Belt and Safety Strap he has on will stand one ton of dead weight. Drop forged tested hardware and tough, best quality harness leather, give the wearer of Klein Belts and Safety Straps the maximum safety.

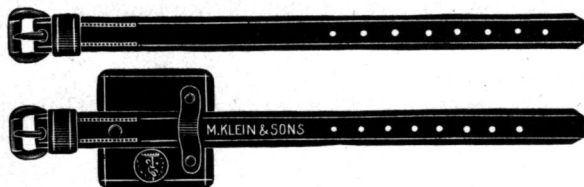
**"EVERY LINEMAN A KLEINMAN"**





## STRAPS FOR EASTERN CLIMBERS

### "Drop Forged" Buckles



CATALOG NUMBER	WEIGHT PER DOZ. SETS
5301-1	15 lbs.

The set consist of two upper straps with 4x4 plain leather pads and two lower straps as shown in cut, made of select harness leather, extra heavy "drop forged" roller buck-

les. Heel straps (over all), 22 inches long by 1 1/4 inches wide; calf strap (over all), 22 inches long by 1 1/4 inches wide.

5301-2 Same as above, with sheep lined pads.... 16 lbs.

5301-3 Same as above, with felt lined pads..... 16 lbs.

WEIGHT  
PER DOZEN PAIRS

5301-4 Straight strap without pad (2 straps).... 6 lbs.

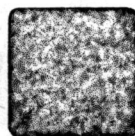
5301-5 Strap with plain pad, (2 straps)..... 9 lbs.

## SOFT PADS FOR EASTERN CLIMBERS

CATALOG  
NUMBER

WEIGHT  
PER DOZEN  
PAIRS

8200	Sheep lined	4x4 inches.....	3 lbs.
8201	Felt lined	4x4 inches.....	3 lbs.
8202	Plain leather	4x4 inches.....	3 lbs.

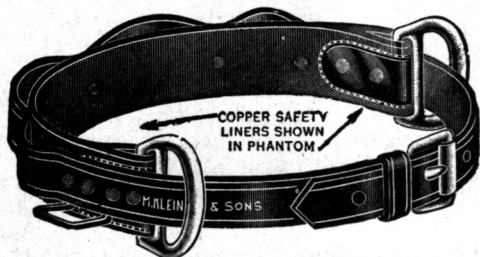


These pads are made of select leather—arranged with loops through which to slip climber straps.

## GENUINE KLEIN TOOL BELTS

### "Drop Forged" Tested Hardware

Made in lengths 34, 36, 38, 40, 42, 44, 46, 48 and 50 inches. Specify length required measuring from end of buckle to middle hole at the other end of belt.



CATALOG  
NUMBER SIZE

WEIGHT  
PER DOZ.

5202 2 1/4 in. .... 30 lbs.

Made of select first quality harness leather. The cushion 2 1/4 in. wide carries the "D" rings. The outer or loop layer is 1 1/2 in. wide formed into tool loops by riveting to the cushion. It also passes through the "D" rings and is fur-

nished with a strong drop forged buckle tested to 1500 lbs.

The "D" rings are solid steel drop forgings of improved design, tested to 1500 lbs. Surfaces taking the wear of the "D" rings are protected with copper safety liners riveted through the full thickness of belt. All rivets are solid copper set with burrs and sewing is with hot waxed linen thread, lock stitched. "D" rings and buckle galvanized finish.

Each belt packed in individual container.

"EVERY LINEMAN A KLEINMAN"



MATHIAS KLEIN & SONS

CHICAGO, ILL.



A "Safety" gang at work. Klein equipment is the answer. Klein Belts, Safety Straps and Climbers are standard with leading properties.

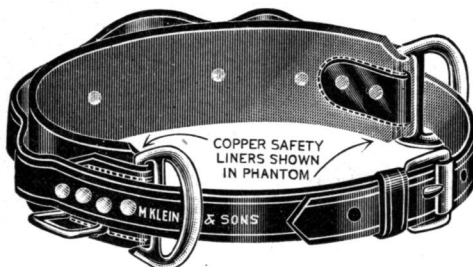
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## GENUINE KLEIN TOOL BELTS

### "Drop Forged" Tested Hardware

Made in lengths 34, 36, 38, 40, 42, 44, 46, 48 and 50 inches. Specify length required measuring from end of buckle to middle hole at the other end of belt.



CATALOG  
NUMBER SIZE  
5204 3½-inch

WEIGHT  
PER DOZEN  
32 lbs.

Made of select first quality harness leather. The cushion 3½ in. wide carries the "D" rings. The outer or loop layer is 1½ in. wide formed into tool loops by riveting to the cushion. It also passes through the "D" rings and is furnished with a strong drop forged buckle tested to 1500 lbs.

The "D" rings are solid steel drop forgings of improved design, tested to 1500 lbs. Surfaces taking the wear of the "D" rings are protected with copper safety liners riveted through the full thickness of belt. All rivets are solid copper set with burrs and sewing is with hot waxed linen thread, lock stitched. "D" rings and buckle galvanized finish.

This belt is identical with No. 5202 except the cushion is 3½ in. wide, making it somewhat more comfortable to recline in when using safety strap.

Each belt packed in individual container.



5205 2¼-inch (double thickness).....33 lbs.

Made of select first quality harness leather. The inner or cushion layer 2¼ in. wide carries the "D" rings and is lock stitched and riveted to the outer layer which also passes through the "D" rings and is furnished with a strong drop forged buckle tested to 1500 lbs.

The "D" rings are solid steel drop forgings tested to 1500 lbs. and are of improved design. Surfaces which take the wear of the "D" rings are protected with copper safety liners riveted to the belt. "D" rings and buckle are galvanized finish. All rivets are solid copper, set with burrs and sewing is with hot waxed linen thread, lock stitched. The loop strap is 1¼ in. wide formed into 6 loops. A doubly safe belt that has become deservedly popular as affording the utmost insurance against accident.

Each belt packed in individual container.

"EVERY LINEMAN A KLEINMAN"

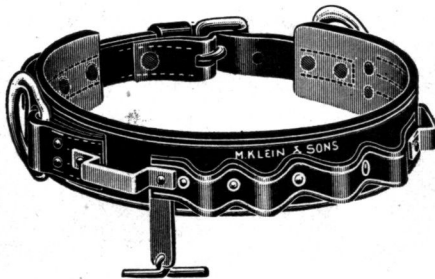




## GENUINE KLEIN TOOL BELTS

### "Drop Forged" Tested Hardware

Made in lengths 34, 36, 38, 40, 42, 44, 46, 48 and 50 inches. Specify length required measuring from end of buckle to middle hole at the other end of belt.



"BELL SYSTEM" TYPE BELT

Cat. No.	Width		Weight Per Doz.
5210	3"	A. T. & T. Co. (Bell System) type	38 lbs.

Made of first quality harness leather. The cushion, 3 inches wide, is in one piece to which the "D" rings are secured by means of separate pieces of leather riveted and sewed through the cushion. The belt straps are in two pieces, securely sewed and riveted to the cushion at either end. Two plier keepers are provided—one at each side of belt. There is also a tape holder of rawhide.

The "D" rings and buckle are solid steel drop forgings of improved design, made and tested to 1500 lbs. in

our own shops. They are galvanized to prevent rust. All rivets are solid copper, hand set with burrs. All sewing is with linen thread, hot waxed and lock stitched. Packing: Each belt packed in individual container.



NATIONAL ELECTRIC LIGHT ASSOCIATION TYPE

Cat. No.	Width		Weight Per Doz.
5211	3"	N.E.L.A. type	36 lbs.

First quality harness leather throughout. The inner or cushion layer, 3 inches wide, is narrowed at each end to carry the "D" rings. The body strap, 2 inches wide, is riveted and stitched to the cushion and also passes through the "D" rings. Two tool straps are provided and formed into two tool loops at each side of the belt by riveting through the two layers of belt proper. "D" rings and buckle are solid steel drop forgings

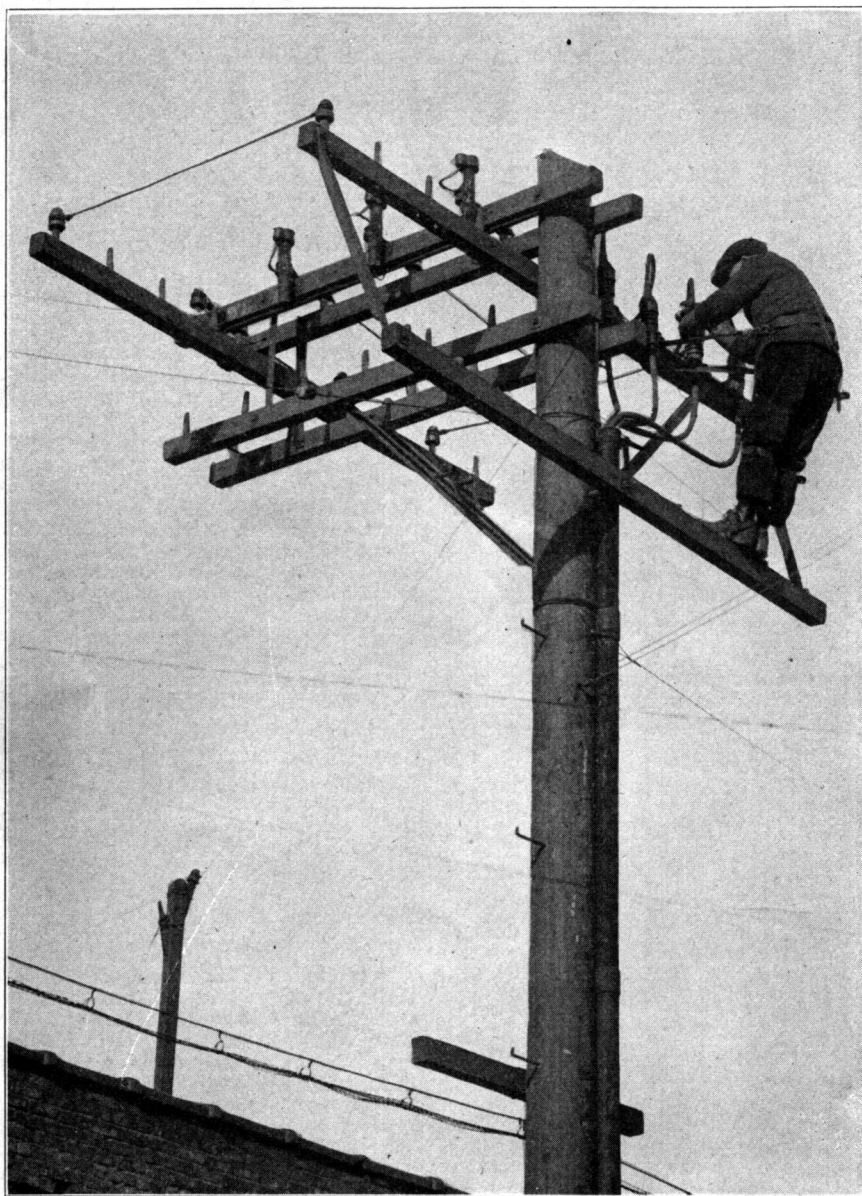
of improved design, each tested to 1500 lbs. They are made in our own shops and are galvanized to prevent rust. Surfaces taking the wear of the "D" rings are protected by copper safety liners riveted through the full thickness of the belt. All rivets are solid copper, hand set with burrs. Sewing is with linen thread, hot waxed and lock stitched. Each belt packed in individual container.

"EVERY LINEMAN A KLEINMAN"



MATHIAS KLEIN & SONS

CHICAGO, ILL.



Klein tested Climbers, Belts and Safety Straps. The maximum safety for the lineman.

**"EVERY LINEMAN A KLEINMAN"**



## GENUINE KLEIN SAFETY STRAPS

"Drop Forged" Tested Hardware



CATALOG  
NUMBER SIZE

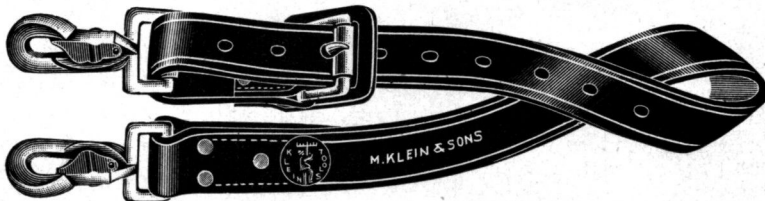
WEIGHT  
PER DOZEN

5250 1 3/4 in. x 6 ft. Solid drop forged snaps, with formed roller.....30 lbs.



5253 2 in. x 6 ft. Extra heavy drop forged roller snaps and buckle.....39 lbs.

These straps are cut from first quality harness leather, back or center stock only. All rivets solid copper set with burrs. Drop forged roller snaps and buckles tested individually to 1500 pounds, galvanized finish. Straps may be lengthened or shortened by adjusting buckle. Reinforced both ends with copper safety clips riveted through double thickness of the leather. Each strap packed in individual container.



5251 1 3/4 in. x 6 ft. Solid forged snaps with formed roller.....30 lbs.

Same general description as No. 5250 but with copper safety clips eliminated.

The wear under buckle is taken by leather protecting flap riveted to the strap at one end and slotted to receive fixed end of strap as illustrated. The strap is a general favorite and has been adopted by many of the leading properties of the country.

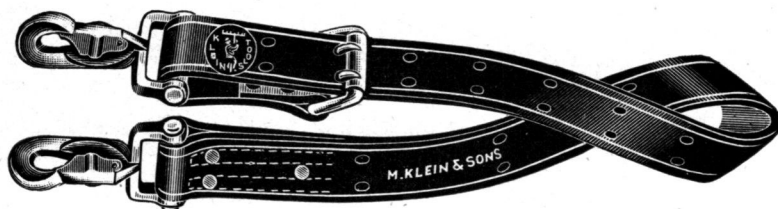
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## GENUINE KLEIN SAFETY STRAPS

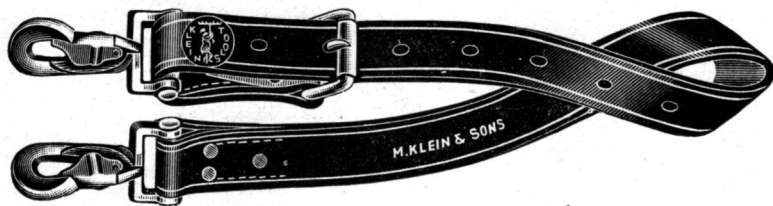
### "Drop Forged" Tested Hardware



DROP FORGED TESTED SNAPS AND BUCKLE  
("BELL SYSTEM" TYPE)

CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
5257-S	2 in. x 5 ft. 1½ in. A. T. & T. Co. (Bell System) type.....	38 lbs.
5257-L	2 in. x 5 ft. 10 in. A. T. & T. Co. (Bell System) type.....	40 lbs.

This strap—a heavy duty type—is similar to the No. 5253 but has a double tongue buckle to conform to "Bell System" (A. T. & T. Co.) specifications. First quality and selection harness leather cut strictly from center or back stock only. Securely sewed with linen thread, hot waxed, lock stitched. Solid copper rivets and burrs set by hand. Snaps and buckle are solid steel drop forgings individually tested to 1500 lbs. They are made in our own shops and are galvanized to prevent rust. The strap may be lengthened or shortened by adjusting buckle. One end reinforced with copper safety clip. The single end is returned through roller of snap and securely sewed and riveted. Each strap packed in individual container. Made to fill the requirements of those who desire to use the "Bell System" standard.



DROP FORGED TESTED SNAPS AND BUCKLE  
(NATIONAL ELECTRIC LIGHT ASSOCIATION TYPE)

CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
5258	2 in. x 5 ft. 6 in. N.E.L.A. Specifications .....	39 lbs.

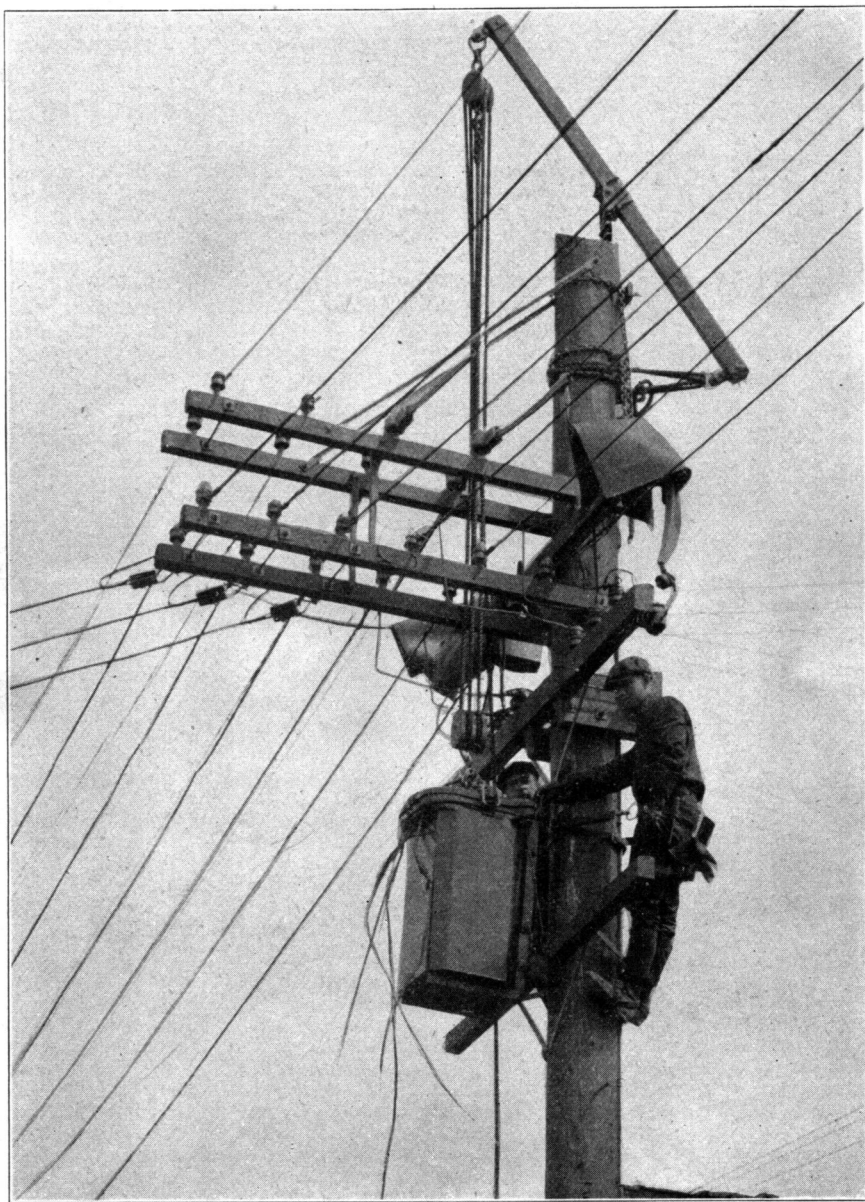
This strap is a heavy duty type following the N.E.L.A. specifications. First quality and selection harness leather throughout, cut from center or back stock only. Sewing is with linen thread, hot waxed, lock stitched. Solid copper rivets with burrs hand set. Snaps and buckle are solid steel drop forgings tested to 1500 lbs. They are made in our own shops and galvanized to prevent rust. The strap may be lengthened or shortened by adjusting the buckle. Reinforced at buckle end with safety copper clip, at the fixed snap the strap is returned and secured by sewing and riveting. Each strap packed in an individual container.

"EVERY LINEMAN A KLEINMAN"



MATHIAS KLEIN & SONS

CHICAGO, ILL.



For a job as illustrated linemen will take no unnecessary risks. These men are using Klein Climbing equipment—their best safeguard.

**"EVERY LINEMAN A KLEINMAN"**



## GENUINE KLEIN BELT AND SAFETY STRAP COMBINED

### "Drop Forged" Tested Hardware



The Tool Belt in this outfit is same as No. 5202. The safety strap is the No. 5250. Belt 2¼ in. wide. Strap 1¾ in. All snaps, "D" rings and buckles are solid steel drop forgings tested to 1500 lbs. and are galvanized finish. The strap may be adjusted to any length by means of buckle or it may be detached entirely from belt.

First quality harness leather throughout. Hot waxed linen thread, lock stitched. A very popular combination—thoroughly dependable.

CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
5206-1A	Strap 1¾ in. x 6 ft.	60 lbs.
Belt (as ordered) 34, 36, 38, 40, 42, 44, 46, 48 and 50 in.		

## KLEIN'S SAFETY HARNESS



BACK VIEW



FRONT VIEW

This harness has been designed for use where danger from gassing is present. Working in gassy manholes, gas tanks, oil tanks and even boilers, men are frequently overcome and an emergency arises instantly. This harness provides a sure means by which the patient can be brought to safety, and the danger overcome. The design of the harness is such that it slings the wearer in a perpendicular position so that he can be readily hauled through an ordinary manhole opening.

A solid harness leather back plate 2¼ in. x 10 in. is stitched and riveted around the 1¾ in. adjustable belt strap. The back plate also carries a tested drop-forged "D" ring to which the ¾ in. manilla life line, 25 ft. in length, is permanently attached.

The shoulder straps are ¾ in. and made adjustable and riveted to the belt at the single ends.

These straps serve to hold the belt in position around the chest, so as not to encumber the wearer while working.

CATALOG NUMBER	WEIGHT PER DOZEN
5209 Harness complete with life line	30 lbs.

"EVERY LINEMAN A KLEINMAN"





## INSPECTOR'S HARNESS LEATHER TOOL BAG



CATALOG NUMBER	SIZE	WEIGHT EACH
5108-14	14x8 inches	3 lbs.
5108-16	16x8 inches	4 $\frac{1}{8}$ lbs.
5108-18	18x8 inches	4 $\frac{1}{2}$ lbs.
5108-20	20x8 inches	5 $\frac{1}{8}$ lbs.
5108-22	22x8 inches	6 lbs.
5108-24	24x8 inches	7 $\frac{1}{4}$ lbs.

This bag offers a combination of good features. It is made of harness leather and will stand rough and hard usage and still always look well. It has a shoulder strap combined with a pad and hand strap; also a saw and bit holder. The bottom is three ply and is protected with steel studs. Retaining straps pass clear around the bag so that it may be loaded to the limit of its capacity and be securely held intact. All seams are sewed with hot waxed linen thread, lock stitched. The leather used does not absorb moisture.

## LINEMEN'S CANVAS TOOL BAG, LEATHER BOTTOM



This bag is made of one piece of white duck reinforced all around the bottom, 3 $\frac{1}{4}$  inches up, with heavy bag-leather. The bottom is made of heavy leather outside and duck inside, lock stitched all around. The bottom is protected with strong steel studs. Bottoms and sides are joined together with lock stitched leather welt seams. Mouth of the bag is formed by a 12-gauge steel frame; the canvas is clinched between this frame and an inside secondary steel frame. Has harness leather handles and two retaining straps with buckles.

5102-12	12-inch	2 $\frac{5}{8}$ lbs.
5102-14	14-inch	3 lbs.
5102-16	16-inch	3 $\frac{1}{2}$ lbs.
5102-18	18-inch	3 $\frac{3}{4}$ lbs.
5102-20	20-inch	3 $\frac{7}{8}$ lbs.
5102-22	22-inch	4 lbs.
5102-24	24-inch	4 $\frac{1}{2}$ lbs.

"EVERY LINEMAN A KLEINMAN"



## HIP POCKET TOOL CASE



CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
5111	5 in. x 7 in.	2½ lbs.

For carrying pliers or other tools in hip pocket. Prevents cutting of clothes, or possible injury to the person. Made of black leather.

## DETACHABLE HOLSTER



CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
5116	10 in. long	6 lbs.

Made of heavy harness leather with loop to slip over belt. Carries 7, 8, or 9 inch side cutting pliers. Mouth of pocket framed to hold open position permanently.



## LEATHER POUCH

CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
5106	5 in. x 6 in.	5 lbs.

Made of heavy harness leather with loops to slip onto belt. Lock stitch sewing with hot waxed linen thread. Very convenient for holding screws, staples, nails, etc.

## PLIER POCKETS



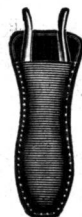
5107

5107 ..... 2½ lbs.

Made of a good quality leather. For carrying pliers when at work. Has slits through which belt is inserted.

5112 ..... 2½ lbs.

Same as No. 5107 except plier does not protrude.



5112



## KLEIN'S COMBINATION STEEL LAG SCREW WRENCH



CATALOG  
NUMBER  
3109-20

LENGTH  
13½-inch

WEIGHT  
PER DOZEN  
20 lbs.

This wrench is forged from select bar steel. The slot is formed in a cross shape and will fit machine bolts, nuts or lag screws from  $\frac{3}{8}$ -inch to  $\frac{5}{8}$ -inch. The small end of the wrench is arranged for  $\frac{5}{16}$ -inch machine bolts or lag screws. The round hole allows the end of a bolt to come through as the nut is run on.

The jaw is wider at its lower portion than at the entrance and when this wrench is put on a nut or bolt the tendency is to draw the bolt-head or nut into the wrench and prevent slipping off, a most desirable advantage original with this wrench and a real "safety" feature.

## KLEIN'S LINEMAN'S WRENCH

"Bell System" Type



3146      13-inch ..... 21 lbs.

This wrench is forged of select bar steel and is of the open end type with two openings of different size at each end.

At the larger end the openings are  $1\frac{1}{8}$ -inch and  $\frac{15}{16}$ -inch, the smaller end  $\frac{13}{16}$ -inch and  $\frac{5}{8}$ -inch. There is a hole provided at the larger end so that the wrench may be used for turning in standard pole steps.

This wrench is particularly adapted for use on the heavier 3-bolt guy clamps on which the clearance for a wrench is limited.

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Klein Lag Screw Wrenches won't slip. Its all in the design! The slot is shaped so as to hug the nut without slipping, and the handle is designed to give powerful leverage and full clearance. Makes hard work easy.

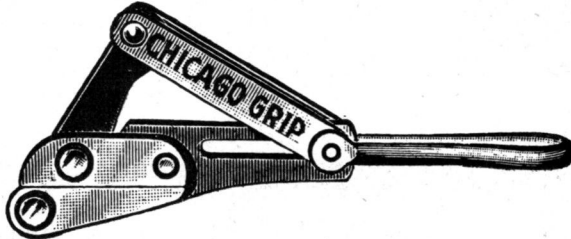
**"EVERY LINEMAN A KLEINMAN"**



## KLEIN'S "CHICAGO" GRIPS FOR BARE WIRE

It will be noted that "Chicago" Grips with Pulleys and "Chicago" Lineman's Tackles have been discontinued.

The reason is that the Howes Wire Tool or the Improved Self-Locking Block Tackle, No. 1802-30, shown on page 49, take the place of the discontinued items when used in conjunction with the plain handle "Chicago" Grips. It makes a combination that is at once more practical, more universal and less expensive.



Main body piece and lever are forged steel. Draw parts are of wrought steel. Gripping jaws are machined smooth. Rivets are machine turned and workmanship throughout is first class.

Once this grip seizes the wire it holds on with the tenacity of a bull dog. The harder the pull, the tighter the hold. It pulls straight without leaving kinks in the wire. It is handy to put on and holds itself in place by means of a spring acting on the compressing lever. A noteworthy feature is the arrangement of the draw link so that it does not hang down at right angles, and is therefore not in the way of the line when the grip is put on.

CATALOG NUMBER			MAXIMUM OPENING	WEIGHT EACH	SIZE NO.
1613-30	For No.	6 wire and smaller.....	7/32"	1½ lbs.	1
1613-40	For No.	0 wire and smaller.....	5/16"	2½ lbs.	2
1613-50	For No.	0000 wire and smaller.....	1/2"	7½ lbs.	3

## KLEIN'S "CHICAGO" GRIPS FOR INSULATED WIRE

Observe particularly how the "teeth" facilitate gripping of insulated wire. This is accomplished, however, without the slightest injury to the insulation.



The "Trick" That Makes It "Stick"  
(On Insulated Wire)

Enlarged view of upper jaw

The upper jaw has a series of transverse shallow grooves into which, on applying strain, the insulation is tightly compressed but not injured.



CATALOG NUMBER			MAXIMUM OPENING	WEIGHT EACH	SIZE
1611-20	For No.	4 wire and smaller.....	1/2"	2½ lbs.	6
1611-30	For No.	00 wire and smaller.....	5/16"	3¾ lbs.	4
1611-40	For No.	0000 wire and smaller.....	3/4"	7¼ lbs.	5

"EVERY LINEMAN A KLEINMAN"



## KLEIN'S "CHICAGO" GRIPS FOR ALUMINUM CABLE

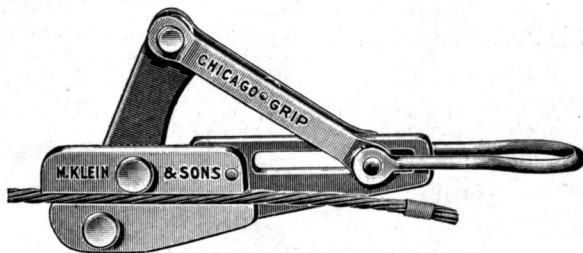


CATALOG NUMBER		MAXIMUM OPENING	WEIGHT EACH
1626-39	For 3/0 A. C. S. R. up to 336,400 C. M. Aluminum Cable S. R.....	3/4"	7 3/4 lbs.
1626-40	For 397,500 C. M. up to 500,000 C. M. Aluminum Cable S. R.....	1 1/8"	7 3/4 lbs.

Both gripping jaws are smooth and cannot injure the strands of the cable.

**Note:** Grips for other size aluminum cable can be made to order.

## KLEIN'S "CHICAGO" GRIPS FOR MESSENGER STRAND AND HEAVY CABLES



These grips successfully fill a long felt want taking the heavy loads incident to larger strands without injury to the strand itself.

Main body piece and lever are forged steel. Draw parts are of wrought steel. Gripping jaws are machined smooth. Rivets are machine turned and workmanship throughout is first class.

Once this grip seizes the wire it holds on with the tenacity of a bull dog. The harder the pull, the tighter the hold. It pulls straight without leaving kinks in the wire. It is handy to put on and holds itself in place by means of a spring acting on the compressing lever. A noteworthy feature is the arrangement of the draw link so that it does not hang down at right angles, and is therefore not in the way of the line when the grip is put on.

CATALOG NUMBER		MAXIMUM OPENING	WEIGHT EACH
1628-6	For 2,200 lb. and 6,000 lb. Messenger Strand.....	1 1/2"	8 1/2 lbs.
1628-16	For 10,000 lb. and 16,000 lb. Messenger Strand.....	1 3/4"	14 lbs.

These grips frequently can be modified to accommodate cables of larger diameters. Write us on your special requirements.

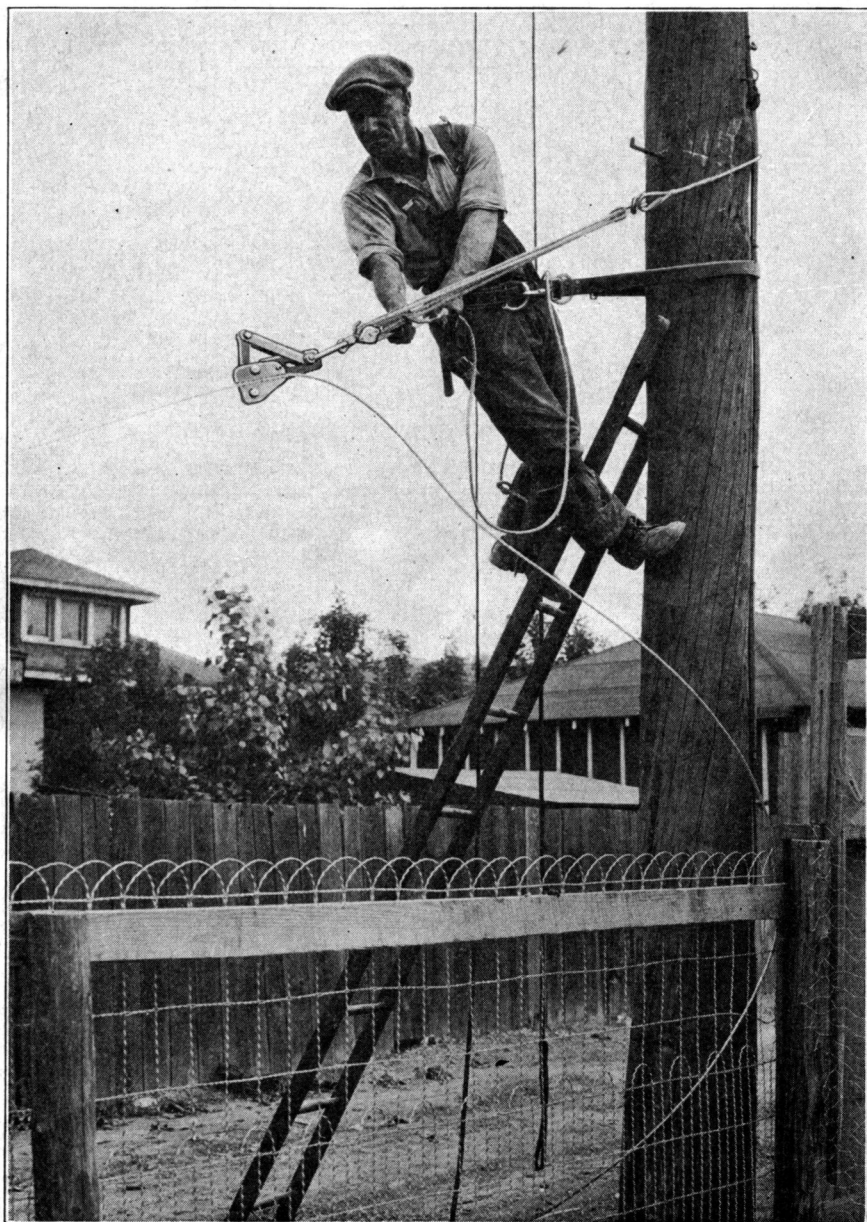
**"EVERY LINEMAN A KLEINMAN"**





MATHIAS KLEIN & SONS

CHICAGO, ILL.



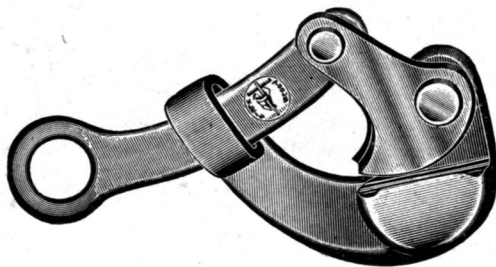
Are your gangs well heeled with Klein Chicago Grips? The illustration shows their use on strand wire. They take the place of all the complicated and cumbersome grips used for this purpose. There is a Klein Chicago Grip for strand up to 16,000 pounds.

No. 1628-6 Chicago Grip in use with 1802-30 Self-Locking Tackle.

**"EVERY LINEMAN A KLEINMAN"**



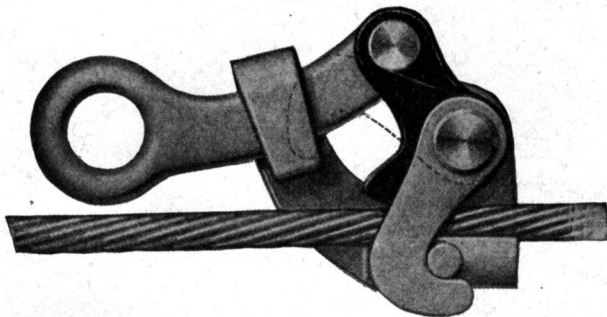
## KLEIN'S HAVEN'S STEEL GRIP



CATALOG NUMBER	SIZE	WEIGHT PER DOZEN
1604-10	No. 8 wire and finer.....	12 lbs.
1604-20	$\frac{1}{2}$ inch wire and finer.....	30 lbs.

A popular grip for all 'round work. Forged from crucible tool steel. The eccentric or dog is hand cut, hardened and tempered. All rivets are steel, machine turned. Almost automatic in action. The handle and the eccentric allows instantaneous hold. A shake of the rope on the tackle disengages or releases the grip. It will not slip, heavy strain only making it grip tighter.

## KLEIN'S IMPROVED HAVEN'S GRIP



1625-20 ..... 69 lbs.

A heavier grip than the one shown above. Adapted for handling plain or stranded wire from No. 6 to  $\frac{3}{4}$ -inch in diameter. The particular feature of construction is the addition of a swing latch which engages with stud on the lower jaw, thus centralizing the pressure on the cross-bolt, which is strongly made of turned machined steel.

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## KLEIN'S HOWES WIRE TOOLS

**CATALOG  
NUMBER****WEIGHT  
EACH**

1702-20 Single purchase. Strap  $1\frac{1}{4}$ -inch wide, 7 ft. long.....2 lbs.

The swivel hook is steel with an opening large enough to go over an insulator pin or other convenient object to anchor to. The forward end has a locking device to hold the load at any distance. It is arranged so that a grip can be attached.

## SELF-LOCKING BLOCK TACKLE



1802-30 Furnished with 25 ft.  $\frac{3}{8}$ -in. Manila rope and detachable hook..2½ lbs.

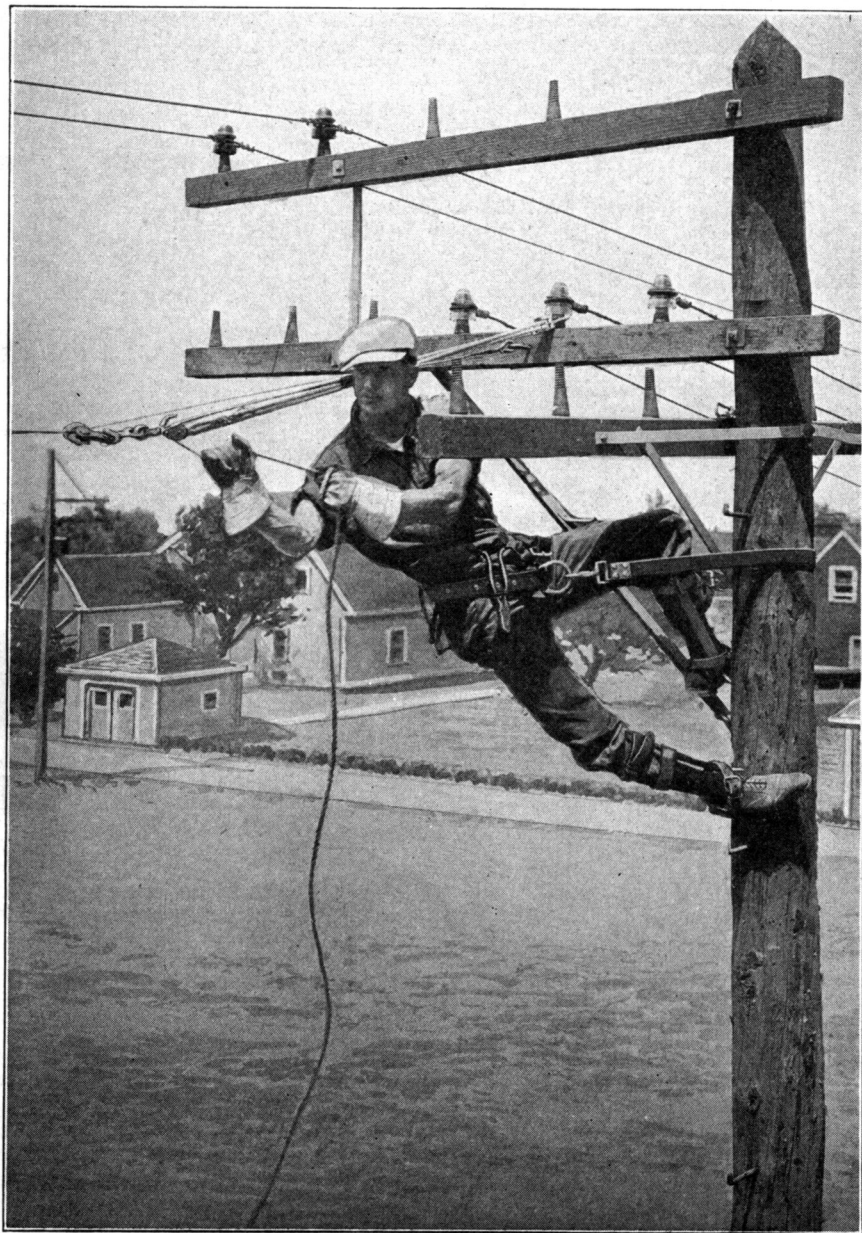
Consist of light steel shell blocks galvanized, fitted with a snubbing hook to lock load in any position. This is a great convenience and time-saver for the man on the pole. Also in handling a vertical load. To lock the load, simply pull the luff rope under the hook. To release, simply pull the rope. The blocks are arranged with spring guard snap hooks. When pulling up wire to make a splice it may be used with two grips attached to the snaps, or with the drop forged hook (shown in illustration) to anchor to an insulator-pin or other convenient anchorage.





MATHIAS KLEIN & SONS

CHICAGO, ILL.



A good grip—a Klein Grip makes for speed. They HOLD ON!  
The 1604-20 Haven's Grip in use with 1802-30 Self-Locking Tackle.

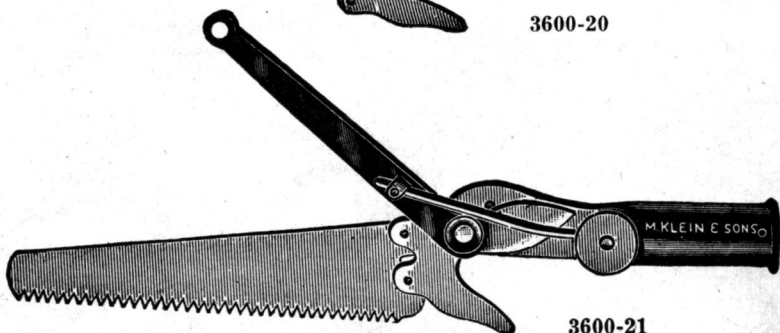
**"EVERY LINEMAN A KLEINMAN"**



## KLEIN'S "FAVORITE" TREE TRIMMER



3600-20



3600-21

This trimmer, as its name implies, is a favorite among users.

The head is one piece and comprises the hook portion with which the knife engages and the socket into which the handle is inserted. This socket is perfectly straight, eliminating the necessity of tapering the end of the handle. The knife is forged from crucible steel and is integral with the lever and the cutting edge is carefully tempered and ground making it very effective. This trimmer will sever a 1-inch branch. The knife is held open by a flat steel spring and is operated by a rope attached to the end of the lever.

Two threaded holes are provided for attaching a saw. See cut No. 3600-21.

CATALOG NUMBER	SIZE	WEIGHT EACH
3600-20	17 inches over all .....	3½ lbs.
3600-21	23 inches over all (with saw) .....	4 lbs.

## TREE TRIMMER SAW

913-12	12-inch for No. 3600-20 Trimmer.....	¾ lbs.
--------	--------------------------------------	--------

## TREE TRIMMER HANDLES

3601-6	18 ft., 3 sections, brass ferrules.....	10½ lbs.
3601-9	18 ft., 2 sections, brass ferrules.....	9¾ lbs.

"EVERY LINEMAN A KLEINMAN"



## "STAYSALITE" LINEMEN'S TORCH

The Staysalite Torch has these main features:

It "Staysalite" in a wind.

It is light; it is small.

It is lit and extinguished in a moment, as wanted.

It burns alcohol without odor or noise.

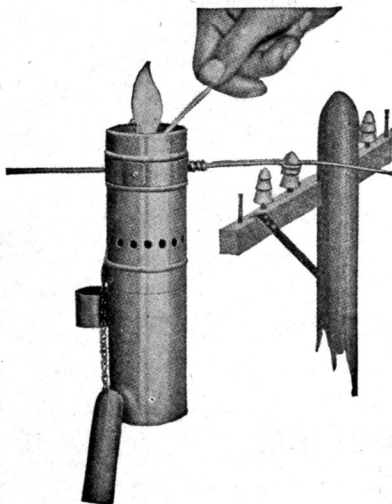
It has no adjusting parts, therefore it cannot get out of order.

It is carried in the lineman's belt and does away with the ground man.

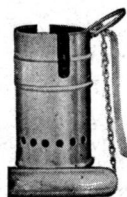
It is hung directly on the wire under the joint to be soldered.

It can be used as a small heater or soldering iron.

It is provided with a cup for holding soldering paste.



Showing Torch suspended on the line.



Torch and Shield Detached

The Torch is the invention of a practical, experienced telephone man.

For hot work within the range of the light work of the telephone or telegraph lineman, house wireman and general shop man it is a boon.

Its features: Small, light, ready to grasp, quick to light and extinguish, its effective flame makes it a handy and always ready source of heat for soldering or other purposes where heat is required. With the wind shield in place it STAYSALITE, and for the man on the pole having many joints to make, it is as readily applied to the work as the grip or splicing clamp and can be lighted and extinguished, momentarily, as required.

To suspend the torch on a wire under a joint, place the wire in the slots on the upper edge of the rim, give the body of the torch a half turn and its on; when through, give it a half turn in the opposite direction and its off. Drop it back in your belt by means of the hook and you are free for the next thing in line.

In general use by many of the largest utility corporations in the country.

CATALOG  
NUMBER

3420

WEIGHT  
EACH

1 1/4 lbs.

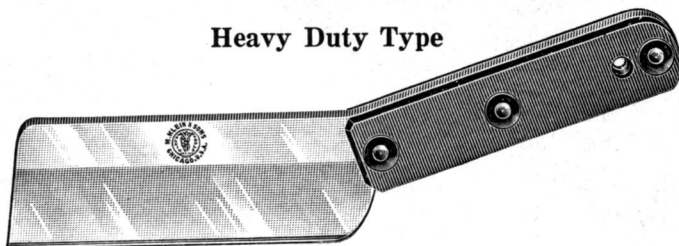
"EVERY LINEMAN A KLEINMAN"





## KLEIN'S CABLE SHEATH SPLITTING KNIFE

Heavy Duty Type



CATALOG  
NUMBER  
1515-1

WEIGHT  
PER DOZEN  
12 lbs.

Blade tempered and ground to keen edge. Has strong leather handle, securely riveted. Temper blued finish. A sturdy knife that will stand up to hard usage.

## KLEIN'S INSPECTORS' POCKET TOOL KIT

Solid black leather folding case strongly stitched, reinforced back. Fitted with one each of the following tools.



201-6 Side Cutting Plier. 301-5 Long Nose Plier. 1550-2 "Xela" Electrician's Knife. 1 Pr. Electrician's Tweezers. 1 Special File. 1 Special Screwdriver. A very handy assortment to fit the pocket.

CATALOG  
NUMBER  
1305-2

WEIGHT  
EACH  
1½ lbs.

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## COMPARATIVE SIZES WIRE GAUGE IN DECIMALS OF AN INCH

No. of Wire Gauge	American or Brown & Sharp	Birmingham or Eng. Wire	New British Standard	Diam. in Mils	Area in Circular Mils
0000000	.....	....	.....	679.0	350000
000000	.....	....	.....	630.0	300000
000000	.....	....	.....	574.0	250000
00000	.46	.454	.400	460.0	211600
000	.40964	.425	.372	409.6	167800
00	.3648	.38	.348	364.8	133100
0	.32486	.34	.324	324.9	105600
1	.2893	.3	.300	289.3	83690
2	.25763	.284	.276	257.6	66370
3	.29942	.259	.252	229.4	52630
4	.20431	.238	.232	204.3	41740
5	.18194	.22	.212	181.9	33100
6	.16202	.203	.192	162.0	26250
7	.14428	.18	.176	144.3	20820
8	.12849	.165	.160	128.5	16510
9	.11443	.148	.144	114.4	13090
10	.10189	.134	.128	101.9	10380
11	.090742	.12	.116	90.74	8234
12	.080808	.109	.104	80.81	6530
13	.071961	.095	.092	71.96	5178
14	.064084	.083	.080	64.08	4107
15	.057068	.072	.072	57.07	3257
16	.05082	.065	.064	50.82	2583
17	.045257	.058	.056	45.26	2048
18	.040303	.049	.048	40.30	1624
19	.03589	.042	.040	35.89	1288
20	.031961	.035	.036	31.96	1022
21	.028462	.032	.032	28.46	810.1
22	.025347	.028	.028	25.35	642.6
23	.022571	.025	.024	22.57	509.5
24	.0201	.022	.022	20.10	404.0
25	.0179	.02	.020	17.90	320.4
26	.01594	.018	.018	15.94	254.1
27	.014195	.016	.016.4	14.20	201.5
28	.012641	.014	.014.8	12.64	159.8
29	.011257	.013	.013.6	11.26	126.7
30	.010025	.012	.012.4	10.03	100.5
31	.008928	.01	.011.6	8.928	79.71
32	.00795	.009	.010.8	7.950	63.20
33	.00708	.008	.010	7.080	50.13
34	.006304	.007	.009.2	6.305	39.75
35	.005614	.005	.008.4	5.615	31.52
36	.005	.004	.007.6	5.000	25.00
37	.004453	.....	.....	4.453	19.83
38	.003965	.....	.....	3.965	15.72
39	.003531	.....	.....	3.531	12.47
40	.003144	.....	.....	3.145	9.89

## DECIMAL EQUIVALENTS OF FRACTIONS OF AN INCH

8ths	9/32	19/64
1/8 ..... .125	11/32 ..... .34375	21/64 ..... .328125
1/8 ..... .250	13/32 ..... .40625	23/64 ..... .359375
1/8 ..... .375	15/32 ..... .46875	25/64 ..... .390625
1/8 ..... .500	17/32 ..... .53125	27/64 ..... .421875
1/8 ..... .625	19/32 ..... .59375	29/64 ..... .453125
1/8 ..... .750	21/32 ..... .65625	31/64 ..... .484375
1/8 ..... .875	23/32 ..... .71875	33/64 ..... .515625
16ths	25/32 ..... .78125	35/64 ..... .546875
1/16 ..... .0625	27/32 ..... .84375	37/64 ..... .578125
3/16 ..... .1875	29/32 ..... .90625	39/64 ..... .609375
5/16 ..... .3125	31/32 ..... .96875	41/64 ..... .640625
7/16 ..... .4375	64ths	43/64 ..... .671875
9/16 ..... .5625	1/64 ..... .015625	45/64 ..... .703125
11/16 ..... .6875	3/64 ..... .046875	47/64 ..... .734375
13/16 ..... .8125	5/64 ..... .078125	49/64 ..... .765625
15/16 ..... .9375	7/64 ..... .109375	51/64 ..... .796875
32ds	9/64 ..... .140625	53/64 ..... .828125
1/32 ..... .03125	11/64 ..... .171875	55/64 ..... .859375
3/32 ..... .09375	13/64 ..... .203125	57/64 ..... .890625
5/32 ..... .15625	15/64 ..... .234375	59/64 ..... .921875
7/32 ..... .21875	17/64 ..... .265625	61/64 ..... .953125
		63/64 ..... .984375

"EVERY LINEMAN A KLEINMAN"







